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RECONDITIONING IN CHEST SURGERY

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MAJOR OMER M. RAINES
AND
MAJOR ORA L. HUDDLESTON
MEDICAL CORPS, ARMY OF THE UNITED STATES

One of the major developments in the field of surgery during the present war has been the general recognition of the value of a reconditioning program. The term "reconditioning program" is a broad one and covers the care of the patient from the time of his operation until he is physically fit to return to his organization. The goal of this program may be simply stated as the restoration of the patient to a normal physical and mental state of health. In order to achieve this objective it has been found necessary to have a well ordered program, which includes four important elements: (1) physical reconditioning, (2) educational reconditioning, (3) occupational therapy and (4) recreation. To be successful this program must be initiated as early in the convalescent period as possible and requires the close cooperation between the surgeon, the physical therapist, the occupational therapist and the physician in charge of reconditioning. It is our purpose in this communication not to discuss reconditioning in general but to describe experiences with a reconditioning program as applied to the specific problem of chest surgery patients during a period of approximately twenty-one months. The subjects of diversional and recreational programs and mental rehabilitation in the convalescent care of patients have been adequately discussed elsewhere. For this reason the present communication will be confined solely to the physical reconditioning of chest surgery patients.

The problems to be overcome in the physical reconditioning of the patient convalescing from a surgical disease of the chest are (1) a lowered vital capacity, (2) a decrease in stamina and strength incident to a protracted debilitating illness, (3) postural defects and (4) the loss of power of large muscle groups incident to extensive muscle cutting incisions. The other phases of reconditioning, educational reconditioning, occupational therapy and recreational and diversional activities are fully as important in this type of patient as in other groups, owing to the usual history of long standing disease with its attendant depression of morale.

The surgical diseases of the chest will be considered from the standpoint of reconditioning in the following groups: (1) tuberculosis, including pulmonary tuberculosis and tuberculosis of the pleura; (2) the suppurative diseases of the lungs and pleura, not including the bronchi, acute and chronic empyema, and lung abscess not associated with bronchiectasis; (3) conditions which require pulmonary resection in their treatment, i. e. bronchiectasis, tumors, benign and malignant, of the lung; (4) a miscellaneous group of benign cysts and tumors of the mediastinum and pleura which require thoracotomy in their surgical treatment.

TUBERCULOSIS

The rehabilitation of the tuberculous patient is a long term program, which, owing to the nature of the disease, must be carried out under the supervision of a phthisiotherapist. Many excellent programs, initiated by local and national groups, are in operation to rehabilitate the tuberculous, and many of these patients have been restored to active and useful lives. However, the disability incident to clinical tuberculosis is not compatible with military service, and for this reason most physical reconditioning and rehabilitation activities will take place following discharge from the army. The very important educational, occupational therapy and recreational aspects of reconditioning that do apply to the period of military hospitalization are beyond the scope of this paper.

SUPPURATIVE DISEASE OF PLEURA AND PULMONARY PARENCHYMA

From the standpoint of reconditioning, we have found it convenient to group the cases of empyema and lung abscess not associated with bronchiectasis together. Acute empyemas are managed at Fitzsimons General Hospital by repeated aspiration until the presence of thick pus indicates that the empyema cavity has become localized and pleural adhesions are present. Then an adequate open drainage is done. Chronic empyemas are treated by revising drainage sinuses to secure adequate drainage and, when chronicity with cessation of obliteration of the empyema cavities occurs, a thoracoplasty with unroofing of the cavity is done. Lung abscesses are given chemotherapy and treated with bronchoscopic aspiration until evidence of failure of resolution is obtained, when open drainage, either in one or in two stages, is established. All patients in this group are transferred to a reconditioning service as soon as they have been afebrile for a sufficient period to take part in the program. This usually requires from ten days to two weeks. The patients are returned to the chest surgery wards daily for dressings but otherwise spend all their time in the reconditioning program. Here the patients' activities are graded carefully in order to avoid overdoing and to stay within the patient's limit of fatigue. He is removed from the hospital atmosphere, placed in an atmosphere of military discipline, wears a duty uniform and engages in graded army training activities.

As the patient's condition permits, breathing exercises, calisthenics and outdoor drills and marches are engaged in. Vigorous physical activity has been found

to be of definite benefit in hastening the obliteration of empyema and lung abscess cavities. The usual experience is that by the time the empyema or lung abscess cavity has disappeared the patient has been restored to his normal weight, stamina and strength. He may then be returned to full military service with his organization. Chronic empyemas which require thoracoplasty of an extensive nature in their treatment frequently incapacitate the soldier for further military service through the deformity incident to the surgical procedure and the consequent reduction in vital capacity.

PULMONARY RESECTION

The reconditioning of patients following pulmonary resection may be divided roughly into three stages: (1) the immediate convalescent care, (2) the physical therapy period, comprising the period from the seventh postoperative day to the twenty-first postoperative day, and (3) the period from the twenty-first postoperative day to the time of his discharge from the hospital, when he is a patient in the reconditioning service. If there is no associated suppurative sinus disease, patients who have had resection of no more than the amount of pulmonary tissue contained in the middle and lower lobes of the right lung may be returned to military duty. Patients who have had more pulmonary tissue resected than this amount are usually incapacitated for military service.

In cases involving the partial resection of one lung, two drainage tubes are left in the intercostal spaces just above the diaphragm, one anteriorly and one posteriorly. These tubes are connected to underwater sealed empyema bottles. The intercostal drainage tubes are usually removed on the third or fourth postoperative day. Other measures during this period are those designed to prevent the development of atelectasis.

The seventh to the twenty-first postoperative days fall into the physical therapy period. During this time breathing exercises and shoulder exercises are started while the patient is still confined to the ward. The shoulder exercises consist of moving the arm through a complete range of motion supplemented by repeated passive exercises. Later these are changed to active assistive exercises and active exercises of the shoulder girdle. The shoulder exercises are unilateral and confined to the operative side. Breathing exercises are bilateral and symmetrical and involve the contractions of the accessory respiratory muscles as well as the regular inspiratory and expiratory muscles during strong, forced breathing. The purpose of the breathing exercises is to increase the vital capacity. The purpose of the shoulder exercises is to prevent contraction and limitation of range of motion of the shoulder joint. Usually exercises are given twice daily. When the patient becomes ambulatory during the second and third postoperative weeks, the treatments are given in the Physical Therapy Clinic. When muscle soreness, rigidity or limitation of motion are present, additional treatment consists of radiant heat or hot packs to the involved muscle group prior to the administration of the exercises. Air cooled general ultraviolet light irradiation is given to stimulate immunity reactions and increase the patient's general strength.

After the third postoperative week the patient's convalescence is sufficiently advanced that he may be transferred to the Reconditioning Service. Here his program is much as it has been outlined for the patients with suppurative disease of the lung parenchyma and pleura. The exercises concentrate in increasing the vital capacity and restoring the strength of the shoulder girdle. The men are trained in the use of and encouraged to engage in activities with indian clubs, rowing machines, pulley weights, dumb-bell exercises, straddle pull ups, push ups, chin ups and resistive exercises. For patients who have no draining sinuses swimming has been found to be important, from the standpoint both of recreation and of physical conditioning. The Australian crawl swimming stroke is particularly useful in loosening up the muscles of the shoulder girdle. Of 31 patients treated in this manner during the past year who required the resection of no more than the amount of pulmonary tissue contained in the middle and lower lobes of the right lung 25 were returned to duty, the average length of hospitalization after operation being approximately ten weeks. Of the remaining 6 who were discharged 3 were discharged because of suppurative sinus disease and suppurative bronchitis of the remaining lung, and 3 were discharged for reasons not related to the condition for which resection was performed.

EXPLORATORY THORACOTOMY

Patients who require exploratory thoracotomy, such as the removal of benign cysts, tumors of the pleura and mediastinum and the repair of diaphragmatic hernias, usually have but little respiratory difficulty as a residual of the operation. The primary problem in these patients is the restoration of stamina and strength, with recovery of function of the shoulder girdle. They follow the same routine as given under "Pulmonary Resection." The results in this group are uniformly good.

COMMENT

Unfortunately it is not possible to compare the results obtained before and after the initiation of the reconditioning program at this hospital, owing to the fact that the cases are not comparable and surgical technics have been changed during this period. However, the rapid response of this group of patients to the program, the excellent physical conditioning obtained and the high percentage of cases returned to military duty have been striking. This is illustrated by the fact that during this period of 31 cases treated by the resection of no more than the amount of pulmonary tissue contained in the middle and lower lobes of the right lung 25 were returned to duty with an average of ten weeks of hospitalization following surgery. Of the remaining 6 who were discharged 3 were discharged for suppurative sinus disease with suppurative bronchitis in the remaining lung tissue. Three were discharged for diagnoses unrelated to the disease for which pulmonary resection was performed. Twenty-two soldiers with chronic nontuberculous empyema completed treatment during this period. Of this number 18 were returned to duty and 4 were discharged from the service. The reconditioning program was of the greatest value in this group, requiring prolonged hospitalization by maintaining general physical fitness and a high morale.

CONCLUSIONS

1. A planned reconditioning program contributes greatly to the success in the management of chest surgery patients.

2. A satisfactory reconditioning program requires close cooperation between the surgeon, the physical therapist, the occupational therapist and the medical officer in charge of reconditioning.

PERSISTENCE OF VIRUS EXCRETION IN THE STOOLS OF POLIOMYELITIS PATIENTS

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AND
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It is now an established fact that many patients with acute poliomyelitis excrete virus in their stools, but little is known of the duration of excretion of virus in fecal material beyond the first four weeks of the disease. The literature up to 1940 has been summarized in two papers by Vignec, Paul and Trask.[1] An example of long persistence of the virus was reported in 1939 by Lépine and his associates,[2] who demonstrated it in the stools of a child forty-one, seventy-four and possibly one hundred and twenty-three days after the abortive disease. Since 1940 two late isolations have been reported: one by Howitt, Buss and Shaffrath [3] fifty days, and another by Wenner and Casey [4] forty-five days after the onset of poliomyelitis. Piszczek and his associates [5] recovered virus from the stools of a healthy contact who had been exposed one and two months before the specimen was collected.

The present study was undertaken to determine the average duration of excretion of virus in stools of patients following acute infection and to ascertain whether a chronic carrier state similar to that occurring in typhoid exists in poliomyelitis.

MATERIALS AND METHODS

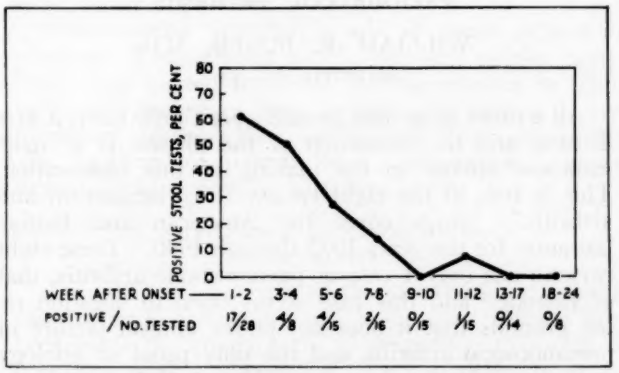
Sixty patients who were admitted to the New Haven Hospital during the summer epidemic of 1943 and 1 who entered in February 1944 were selected for study. In all of these a clinical diagnosis of poliomyelitis had been established. There were 46 cases of the paralytic and 15 of the nonparalytic type. An attempt was made to collect specimens during the first or second week of the disease and at four to six week intervals thereafter. All the materials were frozen immediately or within a few hours after collection and stored on solid carbon dioxide until ready to be tested.

The technic of preparation of materials for inoculation was that developed by Melnick,[6] with a few minor changes. The stools were for the most part 35 to 50 Gm. in amount, although some were as small as 10 Gm. In all specimens the inoculum was prepared by ultracentrifugation at 39,000 revolutions per minute. Immature rhesus monkeys (Macaca mulatta) were used as test animals throughout. Eighty-four monkeys were used, and of these 57 were used more than once. Inoculations were by the intracerebral route in fifty-four tests and directly into the lumbar cord in eighty and by a combination of the two routes in twelve.[7] All but 2 monkeys were ultimately killed, and a test was considered positive when microscopic lesions characteristic of poliomyelitis, viz. neuronal necrosis, neuronophagia and perivascular cellular infiltration, were seen in the spinal cord. The 2 monkeys not killed exhibited typical paralytic poliomyelitis and were preserved for use later. These also were considered to represent positive tests.

RESULTS

Of the 146 tests performed on 123 specimens, 28 were positive, 91 negative and 4 incomplete because of premature death of the test animal. The chart gives the time distribution of the positive tests among the 119 specimens on which complete tests were carried out.

By this method 50 to 60 per cent of the patients were found to excrete virus in the first four weeks of the disease. The rate then falls off steadily, although at five to six weeks 27 per cent of the specimens tested were positive and at seven to eight weeks 12.5 per cent. Between the ninth and twenty-fourth weeks only 1 of 52 specimens tested was shown to contain virus; this was the latest positive obtained and came from a boy 8 years old in the twelfth week of paralytic disease.



Excretion of virus in 119 stools of 61 poliomyelitis patients.

It has been emphasized previously that the stools of young children under 8 [8] and particularly children with nonparalytic disease are more apt to contain virus than do those of older children; as a result the younger child has been suspected of being the more frequent and important carrier. In the present study no difference was detected in the number of positive specimens from the younger and older age groups in either the acute or the convalescent period, nor was there any difference between the paralytic and nonparalytic patients as to virus excretion. This may be due to the method employed.

COMMENT

The prevalent concept of the virus excretion after poliomyelitis is that stools commonly contain the agent for three to four weeks following the onset but rarely thereafter. The results of this study indicate that the period of virus excretion is longer and extends into the seventh and eighth weeks in an appreciable percentage of cases.

It provides no evidence for the existence of persistent carriers of poliomyelitis virus, but it is possible that failure to demonstrate such carriers was due to the relatively small number of subjects studied.

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1. Vignec, A. J.; Paul, J. R., and Trask, J. D.: The Recovery of the Virus of Poliomyelitis from Extraneural Sources in Man, with a Survey of the Literature, Yale J. Biol. & Med. **11:** 15-31 (Oct.) 1938. Trask, J. D.; Paul, J. R., and Vignec, A. J.: Poliomyelitis Virus in Human Stools, J. Exper. Med. **71:** 751-763 (June) 1940.

2. Lépine, P.; Sédallian, P., and Sautter, V.: Sur la présence du virus poliomyélitique dans les matières fécales et sa longue durée d'élimination chez un porteur sain, Bull. Acad. de méd., Paris **122:** 141-147 (July) 1939.

3. Howitt, Beatrice F.; Buss, W. C., and Shaffrath, M. D.: Acute Anterior Poliomyelitis in Kern County, Calif., Am. J. Dis. Child. **64:** 631-648 (Oct.) 1942.

4. Wenner, H. A., and Casey, A. E.: A Community Study of Carriers in Epidemic Poliomyelitis, J. Clin. Investigation **22:** 117-125 (Jan.) 1943.

5. Piszczek, E. A.; Shaughnessy, H. J.; Zichis, J., and Levinson, S. O.: Acute Anterior Poliomyelitis, J. A. M. A. **117:** 1962-1965 (Dec. 6) 1941.

6. Melnick, J. L.: The Ultracentrifuge as an Aid in the Detection of Poliomyelitis Virus, J. Exper. Med. **77:** 195-204 (March) 1943.

7. Results of comparison of the two technics to be published.

8. Sabin, A. B., and Ward, R.: Natural History of Human Poliomyelitis: II. Elimination of Virus, J. Exper. Med. **74:** 519-529 (Dec.) 1941. Trask, Paul and Vignec.[1]

It should be emphasized at this point that these results are relative and are dependent on the method employed. If a cruder method, such as that which has been employed in certain community surveys, had been used, no doubt the excretion rate would have been found to be less than is here reported.

An attempt is not made to interpret the epidemiologic significance of the findings but rather to record the observations.

SUMMARY

1. The duration of excretion of poliomyelitis virus in the stools of 61 patients was studied. It was found that 61 per cent excrete virus during the first two weeks after onset of the disease, 50 per cent during the third and fourth weeks, 27 per cent at the fifth and sixth weeks, 12.5 per cent at the seventh and eighth weeks. Between the ninth and twenty-fourth weeks virus was detected in only 1 of 52 specimens tested, one excreted in the twelfth week.

2. Not one of the 61 patients followed was demonstrated to become a persistent carrier of poliomyelitis virus.

PNEUMOCOCCIC ARTHRITIS

REPORT OF CASE OF SO-CALLED PRIMARY PNEUMOCOCCIC ARTHRITIS

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All writers agree that pneumococcic arthritis is a rare disease, and the discussion of the disease is in most instances limited to the making of this observation. This is true in the eight reviews of "rheumatism and arthritis"[1] which cover the American and British literature for the years 1935 through 1940. These eight reviews cite only 1 case of pneumococcic arthritis, that of Instone,[2] and this case seems open to question on the grounds that it does not fit the clinical picture of pneumococcic arthritis and the only proof of etiology is the growth of pneumococci from a throat swab.

The literature of pneumococcic arthritis consists of a series of case reports, and it is of interest to note that several of the best reviews of the subject have been prompted by the observations of single cases.[3] The fact that few observers have seen more than 1 case and recorded cases are so few makes it seem doubtful if any one can speak with authority concerning the disease.

Pneumococcic arthritis should be regarded as a manifestation of a septicemia even in those cases in which the primary focus from which the organisms gained access to the blood stream cannot be demonstrated. With this concept of the disease I present a case of so-called "primary" or "cryptogenic" pneumococcic arthritis in which no infection apart from the knee could be demonstrated:

REPORT OF CASE

N. F., a Negro woman aged 50, was referred to the hospital because of "phlebitis, arthritis and anemia." On Oct. 29, 1942 she was well and sitting in a rocking chair on a neighbor's porch when she was seized with a sudden acute pain in the back of the left knee. The pain was severe and prevented the patient from walking home. Massage and the application of liniments and heat failed to alleviate the pain. The following day the knee was swollen and painful on motion. A doctor was summoned, and "pills and liniment" were prescribed without benefit. During the succeeding days the knee became more swollen and painful and the patient felt "chilly" and "knew" she had fever.

November 7, on the tenth day of her complaint, the patient presented herself for admission to the hospital. The patient's past health had been excellent, she could not recall having been sick for many years, and specific questioning relative to colds, pneumonia, pleurisy, running ears, "gum-boils" and genital infections failed to reveal any such infections.

Examination showed that the patient was well developed and nourished. She lay in bed complaining bitterly of a painful and much swollen left knee, which was held in semiflexion. She complained of nothing except her knee and appeared to be in good general condition. The temperature was 103 F., pulse rate 100, respiratory rate 25. There were few teeth remaining in the patient's mouth and these were carious, but the gums were in good condition and there was no pyorrhea. The chest was symmetrical and moved equally with respiration; no rales were heard. The blood pressure was 125/85, the heart was normal in size, rate and rhythm, and no murmurs or thrills were demonstrated. The abdomen was nontender and no masses could be felt; the spleen was specifically sought for but not found. Pelvic examination was not done because of pain in the leg. No lymphadenopathy was present.

The left leg was swollen from the hip to the ankle and was easily twice the size of the right leg. The size of the leg was due largely to pitting edema limited to the posterior (dependent) aspect of the leg from the left hip to the ankle. Large, engorged veins coursed over the patellar and lateral aspects of the knee, and the dull purplish discoloration which passes for "redness" in the colored race was apparent over the region of the knee and lower thigh. The knee joint was much swollen by an effusion, the patella was ballotable, and the joint was both tender and "hot" to touch. Movement was painful and limited both by the pain and by the size of the effusion into the joint. Fluctuation just proximal and medial to the patella suggested suppuration in the soft tissues. There was no lymphadenopathy in the left groin despite the obvious signs of inflammation around the knee.

X-ray examination revealed soft tissue swelling but no evidence of pathologic changes in the bone. There was some lipping of the patella. The diagnosis of acute septic arthritis was made, and aspiration of the joint was done under aseptic conditions. An 18 gage needle was used and it was frequently clogged by definite clots of purulent matter during the withdrawal of 310 cc. of thick, yellowish green pus. This amount of pus was readily obtained and there was no reason to doubt that it was obtained directly from the knee joint. Examination of the pus revealed countless numbers of both intracellular and extracellular gram positive diplococci, which proved to be type XII pneumococci in pure culture.

Sulfadiazine was given in full dosage, 3 Gm. initially and 1 Gm. every four hours thereafter for twenty-two days. The blood level of sulfadiazine was checked every other day, and a level between 9.5 and 15.8 mg. per hundred cubic centimeters was maintained.

The patient's temperature, which was 103 F. at the beginning of her disease, subsided by the fifth day of therapy and there-

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Dr. William B. Porter of the Medical College of Virginia, Richmond, permitted the reporting of this case.

1. Hench, P. S.; Bauer, W.; Dawson, M. H.; Freyberg, R. H.; Holbrook, W. P.; Key, J. A.; Lockie, L. M., and McEwen, C.: Rheumatism and Arthritis: Review of American and English Literature from 1940, Ann. Int. Med. **15**: 1002-1108, 1941. Hench, P. S.; Bauer, W.; Dawson, M. H.; Hall, F.; Holbrook, W. P.; Key, J. A., and McEwen, C.: The Problem of Rheumatism and Arthritis: Review of American and English Literature for 1939, ibid. **14**: 1383-1448, 1941; The Problem of Rheumatism and Arthritis: Review of American and English Literature for 1938, ibid. **13**: 1655-1739, 1940. Hench, P. S.; Bauer, W.; Dawson, M. H.; Hall, F.; Holbrook, W. P., and Key, J. A.: The Problem of Rheumatism and Arthritis: Review of American and English Literature of 1937, ibid. **12**: 1005-1374, 1939. Hench, P. S.; Bauer, W.; Hall, F.; Holbrook, W. P.; Key, J. S., and Slocumb, C. H.: The Present Status of Rheumatism and Arthritis: Review of the American and English Literature for 1936, ibid. **11**: 1089-1247, 1938. Hench, P. S.; Bauer, W.; Fletcher, A. A.; Ghrist, D.; Hall, F., and White, T. P.: The Problem of Rheumatism and Arthritis: Review of American and English Literature for 1935, ibid. **10**: 754-909, 1936; The Present Status of the Problem of Rheumatism: A Review of Recent American and English Literature on Rheumatism and Arthritis, Ann. Int. Med. **8**: 1315-1374, 1935; footnote 6.

2. Instone, S.: Pneumococcal Arthritis Complicating Lobar Pneumonia Treated with Sulfapyridine: Recovery, Brit. M. J. **2**: 523, 1940.

3. Fagge,[10] Bulkley.[9] Plisson and Brousse.[5]

after never rose above 99.6 F. Appetite was sustained throughout the hospital stay, and the general good condition of the patient was remarked by all.

Morphine ⅙ and ¼ grain (11 and 16 mg.) was required for the relief of pain, and light plaster of paris splints were used to immobilize the painful joint. Despite some pain, the limb was removed from the splints once a day and the knee moved through as full a range of motion as possible.

On November 13 a second aspiration was done and 340 cc. of the same type of pus as previously noted was removed. Five Gm. of sodium sulfadiazine dissolved in 100 cc. of distilled water was injected into the joint. This pus that was withdrawn from the joint after five days of adequate sulfadiazine therapy gave a pure growth of type XII pneumococci. Aspiration of the joint was repeated on the 16th, 19th and 20th, but no organisms were found in the material withdrawn. On November 24 a swelling was found in the left midthigh that presented all the cardinal signs of inflammation. Aspiration at this site yielded 240 cc. of greenish purulent material which was sterile on culture.

X-ray films taken during the hospital course failed to reveal any bone destruction in the knee joint. Blood counts done every third day showed a hypochromic anemia of moderate severity, hemoglobin values averaged 58 per cent (Sahli) and the red counts averaged 3,410,000. One 500 cc. transfusion was given, which did not change the count materially. The high white cell count obtained was 12,200 and all other counts averaged 7,460. The differential counts at no time showed more than 76 per cent polymorphonuclear leukocytes.

TABLE 1.—*Listed Cases of Pneumococcic Arthritis*

Author	Year	Cases in Series	Bacteriologic Proof	Pneumococcus Type I	II	III	IV
Weichselbaum [4]	1888	1	Yes	..	..	..	..
Vogelius: Arch. de méd. expér. et d'anat. path. **8**: 186, 1896, cited by Herrick [7]	1896	11	....	..	..	..	..
Leroux: Les arthrites à pneumocoques, Paris thesis, J. Rousset, 1899	1899	28	....	..	..	..	..
Cave [21]	1901	31	....	..	..	..	..
Herrick [7]	1902	52	....	..	..	..	..
Zesas: Ztschr. f. orthop. Chir. **24**: 128, 1909, cited by Plisson and Brousse	1909	96	....	..	..	..	..
Bulkley [9]	1914	173	....	..	..	..	..
Plisson and Brousse [5]	1920	185	....	..	..	..	..
Cases Not Included in Any Previous Review							
Cecil and Larsen: J. A. M. A. **79**: 343, 1922	1922	2	Yes	..	..	..	..
Gubb: Brit. M. J. **2**: 455, 1924	1924	1	....	..	..	..	..
Froelich: Paris méd. **57**: 64, 1925 (all cases noted in children)	1925	17	....	..	..	..	..
Cecil et al.[20]	1927	8	Yes	5	..	1	2
Milch [18]	1929	1	Yes	..	1	..	..
Fagge [16]	1933	3	Yes	..	..	..	..
Keefer et al.[22]	1934	1	Yes	1	..	..	..
Bloomberg [15]	1935	1	Yes	..	..	..	1 (XIV)
Eggers [24]	1936	3	Yes	..	..	..	..
Chickering: M. Clin. North America **21**: 1739, 1937	1937	2	Yes	1	..	1	..
Bullowa: Management of the Pneumonias, N. Y., Oxford Univ. Press, 1937, p. 477	1937	1	Yes	1	..	..	..
Cohn: Rocky Mountain M. J. **40**: 137, 1943	1943	1	Yes	..	1	..	..
Boger	1944	1	Yes	..	..	..	1 (XII)
Totals		227		8	2	2	4

Six blood cultures failed to yield a growth despite precautions to inhibit the sulfadiazine in the blood samples. Throat cultures were negative for pneumococci, and so also were cultures of scrapings from the carious teeth.

The patient was discharged on Nov. 29, 1942 with a knee joint that did not pain her, and she was able to walk without discomfort; the knee could be extended to 170 degrees and flexed to 80 degrees, giving her an effective range of motion of 90 degrees.

INCIDENCE

Weichselbaum [4] described the first case of pneumococcic arthritis and since then cases have been infrequently reported. In table 1 the number of cases of pneumococcic arthritis listed is 227, an addition of 42 cases to the compilation of Plisson and Brousse,[5] but

TABLE 2.—*Data of Herrick and More Recent Studies*

Reference	Cases of Pneumonia	Cases of Arthritis
Bulkley [9]	12,364	17
Herrick [7] cites		
Cave	2,292	2
Vogelius	3,293	2
Netter	4,156	6
(Munich)	650	1
(Paris)	1,215	3
Sears and Larrabee	949	23
Cecil et al.[20]	1,913	8
Cecil and Larsen (table 1)	834	2
Howard: Johns Hopkins Hosp. Rep. **15**: 229, 1910	658	3
Bullowa (table 1)	"Autopsy series"	1
Preble (Pneumonia and Pneumococcus Infections, Chicago, C. J. Head & Co., 1905) cites Huss	2,616	22
Raw [25]	817	7
Totals	31,757	97 (0.3%)

there are undoubtedly additional cases which have not come to my attention.

Pneumococcic arthritis is said to occur as a complication of pneumonia in 0.1 per cent of the cases.[6] This often quoted incidence was determined by Herrick [7] and has never been revised. In table 2 I have presented Herrick's data and other more recent studies. The incidence of arthritis as a complication of pneumonia would appear to be 0.3 per cent.

CLASSIFICATION OF PNEUMOCOCCIC ARTHRITIS

Since 70 to 75 per cent of the pneumococcic arthritis cases occur in association with pneumonia,[8] efforts have been made to classify them as preceding, following or occurring with a pneumonia. Certain cases, however, have been clearly shown to be completely independent of pneumonia, thus supporting the original dictum [4] that Diplococcus pneumoniae can cause not alone pneumonia but also various other processes, either at the same time as pneumonia or entirely independent of it. The most inclusive classification is: [5]

1. Arthritis evolving before, during or after a pneumonia.
2. Arthritis evolving without pneumonia but before, during or after an extrapulmonary infection (meningitis, pericarditis, endocarditis, otitis, peritonitis, cystitis, pharyngitis).
3. Arthritis evolving without any other acute manifestation due to the pneumococcus (primary or cryptogenic arthritis).

Plisson and Brousse [5] found 26 cases of "primary" arthritis, 14 cases in children and 12 in adults, but no bibliography was presented. Bulkley [9] found 48 cases of pneumococcic arthritis occurring without pneumonia, but in 18 of these cases an extrapulmonary pneumo-

4. Weichselbaum, A.: Ueber seltenere Localisationen des pneumonischen Virus, Wien. klin. Wchnschr. **1**: 573, 595, 620, 642 and 659, 1888, cited by Herrick.[7]

5. Plisson and Brousse: Arthrite purulente primitive à pneumocoques du genou chez l'adulte, Lyon chir. **17**: 705-712, 1920.

6. Hench, P. S.; Bauer, W.; Fletcher, A. A.; Ghrist, D.; Hall, F., and White, T. P.: The Present Status of the Problem of Rheumatism and Arthritis: Review of American and English Literature for 1934, Ann. Int. Med. **9**: 883-982, 1936. Bauer, W., and Short, C. L.: The Treatment of the Arthritides of Known Origin, New England J. Med. **223**: 286, 1936. Fagge.[16] Herrick.[7]

7. Herrick, J. B.: Pneumococcic Arthritis, Am. J. M. Sc. **124**: 12-34, 1902.

8. Fagge.[16] Plisson and Brousse.[5]

9. Bulkley, K.: Pneumococcic Arthritis, Ann. Surg. **59**: 71-100, 1914.

coccic infection was found (pyosalpinx, umbilical fistula, tonsillitis, pharyngitis, otitis media, labor, peritonitis and cystitis). The remaining 30 cases which were regarded as "primary" were the 26 previously listed by Plisson and Brousse [5] and 4 cases of his own about which no particulars are given.

The only cases occurring apart from pneumonia concerning which I have been able to gather any particulars are the following: Widal and Meslay [10] reported a male of unknown age with involvement of the left metacarpophalangeal joint who died and was shown to have pneumococcic pericarditis. Widal and Lesne [11] had a man aged 68 who recovered after involvement of the left sternoclavicular joint and the small joints of the left hand. Griffon [12] stated that a woman aged 71, whose right ankle was incised and drained, died and necropsy showed pneumococcic meningitis and vegetative endocarditis. Allen and Lull [13] cultured pneumococci from the knee of a woman aged 40 who died. Billings and Preble [14] had a woman aged 43 with involvement of the elbow, knee, wrist and ankle who died and was shown to have pneumococcic pericarditis and meningitis. Plisson and Brousse [5] saw a colonial soldier of unstated age whose left knee was involved by pneumococcic arthritis and who recovered. Bloomberg [15] cultured pneumococci from the metatarsophalangeal joint of a Negro aged 27 who recovered. Of these 7 cases occurring apart from pneumonia, only 3 can really be called "primary" or "cryptogenic," and recovery occurred in these 3 cases together with my own case.

SYMPTOMS AND CLINICAL FEATURES

Pneumococcic arthritis is a septic arthritis, and it is the feeling of some that there are no signs and symptoms which distinguish it from other varieties.[16] Pain is always present but may be gradual or sudden in onset, swelling may be slight and involve only the joint, or an intense inflammatory edema may extend to the entire limb, the local signs of acute inflammation are well defined and local tenderness is great. Large effusions are common, and it is not at all unusual for infection to spread to the periarticular structures with destruction of ligaments and extension of suppuration into the musculature surrounding the joint. The temperature usually ranges between 102 and 103 F.

It is of interest that Chantemesse, Macaigne and Chipault [17] regarded several clinical features as almost pathognomonic, all of which were noted in my case: white, periarticular edema with prominent venous collateral circulation, elevated temperature with the patient in good general condition, the absence of regional lymph gland reaction, and the rapidity of reappearance of swelling of the joint after aspiration.

According to Bulkley [9] pneumococcic arthritis is monarticular in about 75 per cent of the cases, and arthritis has been noted in every joint except the acromioclavicular joint and the joints of the vertebral column. In this connection the case of Milch [18] may be mentioned, for he isolated a type II pneumococcus from an abscess of the vertebral column, but in this case there was some question of Pott's disease.

BACTERIOLOGY

The only proof of pneumococcic arthritis is the demonstration of pneumococci in fluid aspirated from the involved joint. An arthritis appearing during the course of pneumonia is circumstantial evidence of the arthritis being pneumococcic in origin, but Smirnow [19] demonstrated typhoid bacilli, streptococci and staphylococci in 5 out of 10 cases of pyoarthrosis complicating pneumonia.

There has been some speculation about the type of pneumococcus which produces arthritis and other complications. The most extensive study of this sort has been that of Cecil and his associates,[20] who found 8 cases of arthritis among 1,913 typed pneumonia. We were able to find only 16 cases of pneumococcic arthritis in which the type had been determined, and this number of cases does not permit the drawing of any conclusions, type I, 8; type II, 2; type III, 2; type IV, 4 (table 1).

PATHOLOGY

There is little or no information available on the microscopic pathology of pneumococcic arthritis. Cave [21] feels that the morbid anatomy is that of any other septic joint. Keefer, Parker and Myers,[22] in speaking of "pyoarthrosis" in general, say that destruction of cartilage occurs "not by direct action of bacteria but by an action of proteolytic enzymes in the leukocytes of pus, to a lesser extent by pressure and synovial pannus."

The tendency of pneumococcic arthritis to perforate the joint capsule has been mentioned,[23] but "in many of the acute and most virulent forms there is no solution of continuity in the synovia or cartilage." [7]

TREATMENT

Pain in these cases is acute and may require large doses of opiates. Light plaster of paris splints give great comfort, but "immobilization has been accepted as treatment only in those cases impossible of joint recovery." [24] Arthrotomy has been recommended in the past, but comparable and even superior results are obtained by repeated aspirations. A large bore needle should be used, for all observers have noted the large flakes of purulent matter which are present in the yellowish green pus withdrawn from these joints. In order to preserve joint function, passive movement should be insisted on at the earliest possible moment. Physical therapy should be instituted as soon as acute pain has subsided with the hope that wasting of muscles will be prevented and joint disability decreased. Sul-

10. Widal, F., and Meslay: Bull. et mém. Soc. méd. d. hôp. de Paris, Jan. 24, 1896, cited by Allen and Lull.[13]
11. Widal and Lesne: Bull. et mém. Soc. méd. d. hôp. de Paris, May 6, 1898; cited by Herrick.[7]
12. Griffon, V.: Pneumococcie articulaire, endocardique et méningée, Bull. Société anat. de Paris **71**: 299-305, 1896; cited by Preble: Pneumonia and Pneumococcus Infections, Chicago, C. J. Head & Co., 1905.
13. Allen, D. P., and Lull, C.: Pneumococcus Arthritis Primary in the Knee Joint, Ann. Surg. **34**: 527-533, 1901.
14. Billings and Preble, cited by Herrick.[7]
15. Bloomberg, M. H.: Report of a Case of Primary Pneumococcus Arthritis, New England J. Med. **212**: 1122-1123, 1935.
16. Fagge, C. H.: Pneumococcal Arthritis, Guy's Hosp. Rep. **83**: 444-451, 1933. Pemberton.[27]
17. Chantemesse, Macaigne and Chipault, cited by Plisson and Brousse.[5]
18. Milch, H.: Pneumococcus Spondylitis, J. Bone & Joint Surg. **27**: 292-297, 1929.
19. Smirnow: Ueber die Gegenwort pathogener Microorganismen in den Gelenken bei einigen Infectionskrankheiten, St. Petersburg Ztschr. f. allg. vet. Med., 1895, p. 110, cited by Herrick.[7]
20. Cecil, R. L.; Baldwin, H. S., and Larsen, N. P.: Lobar Pneumonia—A Clinical and Bacteriologic Study of 2,000 Cases, Arch. Int. Med. **40**: 253-280 (Sept.) 1927.
21. Cave, E. J., Pneumococcic Arthritis, Lancet **1**: 82-86, 1901.
22. Keefer, C. S.; Parker, F., and Myers, W. K.: Histologic Changes in the Knee Joint in Various Infections, Arch. Path. **18**: 199-215 (Aug.) 1934.
23. Herrick.[7] Plisson and Brousse.[5] Raw.[25] Cave.[21]
24. Eggers, G. W. N.: Suppurative Arthritis of the Knee Joint, Texas State J. Med. **31**: 623-626, 1936.

fonamide therapy has strikingly reduced the mortality rate of pneumonia and has reduced complications commensurately, so it may be expected that these drugs will be of service in preventing pneumococcic arthritis as well as in treating it. I have seen no report of the use of penicillin in this disease. But whatever therapy is used, one's enthusiasm should be tempered by the observation of Herrick [7] that "it is well to remember that, with serous and in a few cases even with purulent exudate, recovery has ensued either spontaneously or by the simpler measures of rest, compression or aspiration."

PROGNOSIS

Pneumococcic arthritis is said to carry a high mortality rate. Raw [25] had 7 patients and 3 died (42 per cent), Sever [26] had 6 patients and 3 died (50 per cent), Herrick [7] gives the mortality rate as 65 per cent and Bulkley [9] found that with multiple foci of pneumococcic infection the mortality was 72 per cent, whereas when only a single joint was involved the mortality was 24 per cent.

It is my feeling that these mortality rates are not those of pneumococcic arthritis but those of pneumococcic bacteremia. The cases of isolated pneumococcic arthritis are too few to permit any one to quote a mortality rate for this condition, and I feel that it is worthy of comment that recovery occurred in all 3 cases of this sort which I found and my own case likewise.

The prognosis with respect to joint function is influenced by the patient's general condition, but one need not be pessimistic about this type of arthritis. Cave [21] feels that there is generally permanent impairment. Bulkley [9] found details of joint function given for only 34 patients among 172, and of these 25 had "good functioning joints" and the impression was given that the remaining 9 had useful joints. Of Raw's [25] 7 patients 3 had useful joints although they remained "slightly stiff." The patient of Plisson and Brousse [5] recovered 90 degrees of flexion and my own patient was able to walk without pain and had 90 degrees of motion.

It seems fair to say that ankylosis can be prevented in a high percentage of pneumococcic arthritis cases and a useful joint result, but there will be some permanent damage in almost every joint infected by pneumococci.

COMMENT

In the understanding of bacterial diseases a transient bacteremia has been increasingly invoked as an explanation of multiple manifestations of a single infection. Bacteremia has been frequently demonstrated as one phase of pneumococcic pneumonia, and the rare complications of pneumonia, arthritis among them, are readily ascribed to this bacteremia. Similarly, when multiple pneumococcic infections exist simultaneously or in close temporal relationship, bacteremia seems an obvious link between them. Under these circumstances pneumococcic bacteremia is the fundamental disease, and only as one of the manifestations thereof completely dominates the clinical picture does there seem any reason to subordinate the importance of the bacteremia.

If pneumococcic arthritis is a clinical entity, and some have doubted that it is,[27] the only cases which should be considered are those in which arthritis is the sole manifestation of pneumococcic infection. Such cases are extremely rare, and it seems doubtful whether there are enough of them to justify comments on the course, prognosis and treatment of pneumococcic arthritis as a disease. It does appear to be unwarranted to ascribe such a grave prognosis and high mortality to pneumococcic arthritis as is done commonly in the literature, when examination of the cases shows that pneumococcic bacteremia far outweighs the importance of the arthritis. It seems worthy of comment that the only patients with primary pneumococcic arthritis which I found in the literature recovered.

The case which I have reported was a case of primary or cryptogenic pneumococcic arthritis and the only case of pneumococcic arthritis which I have observed. I was impressed by the clinical features which Chantemesse, Macaigne and Chipault [17] called attention to, the general well-being of the patient, the edema of the involved limb, the absence of regional lymph glands, the extensive venous collateral circulation and the rapid accumulation of fluid after aspiration of the joint. If these observations are confirmed by others they may be of great clinical value in suggesting the diagnosis of pneumococcic arthritis.

I had no precedent for the injection of sodium sulfadiazine into the knee joint, but this procedure may have had a salutary effect, especially in view of the fact that viable pneumococci were aspirated from the joint after five days of adequate oral sulfadiazine therapy. No claims are made for this form of therapy, for, as Herrick [7] has cautioned, spontaneous recoveries have been noted.

CONCLUSIONS

A case of cryptogenic pneumococcic (type XII) arthritis was observed. Forty-two cases of pneumococcic arthritis are added to the compilation of Plisson and Brousse,[5] bringing the number of cases to 227.

The incidence of arthritis as a complication of pneumococcic pneumonia is more nearly 0.3 per cent than 0.1 per cent, the figure commonly quoted.

Those cases of pneumococcic arthritis in which arthritis is the only manifestation of disease are the only ones which merit consideration as a clinical entity and they are very rare. Pneumococcic bacteremia with arthritis as only one of the complications carries a high mortality rate, but evidence is lacking to establish a grave prognosis or high mortality for pneumococcic arthritis by itself.

25. Raw, N.: Pneumococcus Arthritis with Notes of 7 Cases, Brit. M. J. **2**: 1803-1804, 1901.

26. Sever, J. W.: Pneumococcic Arthritis, with Report of 6 Cases, Boston M. & S. J. **173**: 387-391, 1915.

27. Pemberton, R.: Arthritis and Rheumatoid Conditions: Their Nature and Treatment, Philadelphia, Lea & Febiger, 1929, p. 306.

Influence of Climate on Some Diseases.—The influence of climate on some diseases is beyond dispute. Certain parasites are dependent on weather both directly and indirectly through the fortunes of their insect hosts. The distribution of the insect carriers in some instances is definitely limited by temperature and humidity, and the same factors, operating on the food supply, must affect the size and distribution of animal reservoirs of infection. Climate and its emergencies have a definite influence on crowd formation and crowd movements, and perhaps on the means by which infection travels through a crowd. The evidence is not so clear as to seasonal and climatic variations in physiological resistance to infection, but it is strongly probable that they do occur.—Smith, Geddes: Plague On Us, New York, Commonwealth Fund, 1941.

INFLUENCE OF DIFFERENT FORMS OF MECHANICAL ARTIFICIAL RESPIRATION

ON THE PULMONARY AND SYSTEMIC BLOOD PRESSURE

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AND
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Mechanical methods for initiating respirations that have ceased from any cause have been the subject of frequent study and controversy. The lesser or pulmonary circulation, though intimately associated with respiration, has not been the subject of adequate study with the chest closed. An improved technic has been developed for measuring the effective pulmonary and the effective systemic blood pressure in animals with closed chest and premedicated with 3 to 5 mg. of morphine sulfate per kilogram. The pulmonary and systemic blood pressures have been recorded while respiration was maintained with each of the following resuscitators:

1. Anesthetic machine.
2. Emerson respirator (iron lung).
3. Kreiselman infant resuscitator.
4. Kreiselman "bellows" resuscitator.
5. Artificial pulmonary ventilation for operating room (Mautz model).
6. Lung ventilator.
7. Emerson resuscitator, J. H. model.

METHODS

All operative procedures were accomplished with the aid of local infiltrations of 1 per cent procaine hydrochloride. The trachea was cannulated in all animals to insure a free airway and to prevent the possible danger of blowing air into the esophagus and stomach.

Changes in the pressure relationship between the abdominal and thoracic cavities were recorded, since they influence venous return to the heart.[1] Balloons fastened to leaden tubes were inserted into the abdominal and thoracic cavities. Subtraction of the intrathoracic pressure from the abdominal pressure was accomplished with a differential manometer [2] and provided measurements of the net abdominal pressure (fig. 1). Changes in this net abdominal pressure can modify venous return to the heart from the abdominal reservoirs. These changes may be the result of an increase or a decrease in intrathoracic pressure without a comparable rise or fall in intra-abdominal pressure.

The gross arterial and the gross venous pressures are those commonly measured and are the amount of pressure present over and above the atmospheric pressure. The net arterial and the net venous pressures are the pressures present over and above those which are surrounding the particular organ whose net pressure is being measured. The net arterial pressure to the lungs is the pulmonary arterial pressure minus the intrapleural pressure, i. e. it is the pressure distending the pulmonary arteries and against which the right heart pumps. The net coronary arterial pressure is the pressure within the coronary arterial system minus the pressure in the thorax. This net coronary pressure is acting to push the blood to the cardiac tissue. These gross and net pressures were measured by means of simple and differential manometers.[3] A method to be described in detail elsewhere [4] was developed for the measurement of these pressures from intact chests not operated on. Sounds adapted to the size of the animal, generally 12-16 Gm., were fastened to manometers (fig. 1). Isotonic solution of sodium chloride was allowed to drip slowly through these sounds to minimize the possibility of coagulation. With use of only gentle pressure, one sound was inserted into the exposed left carotid artery and into the aorta and past the semilunar valves into the left ventricle. The other sound was inserted into the exposed external jugular down to the superior vena cava and right auricle and into the right ventricle.

Various degrees of reduced cardiac activity with severe depression or complete arrest of respiration were produced repeatedly by complete occlusion of the airway in 4 dogs and by the use of helium with the carbon dioxide absorption technic in 6 dogs. In some experiments only the immediate circulatory effects of the aforementioned methods of mechanical artificial respiration were studied in quick succession. This was accomplished by recording the pressure relationships during 3 to 10 cycles of each method of resuscitation. This was repeated several times with each animal, using the various types of resuscitators in different order of rotation. By producing several periods of severe hypoxia in each animal it was possible to compare the effect of several methods in each animal.

Cardiac arrest was produced (1) by complete occlusion of the airway in 3 dogs, (2) by the use of helium with the carbon dioxide absorption technic in 2 dogs and (3) by electrically induced ventricular fibrillation in 2 dogs. In these animals the pressure relationships were recorded while all of the methods of resuscitation being studied were used in rotation.

RESULTS AND COMMENT

When respiratory arrest and slow weak cardiac contractions were produced by the administration of helium, using the carbon dioxide absorption technic, recovery was accomplished with any of the mechanical methods of resuscitation studied. Irrespective of the method employed, the immediate effects on the pulmonary and systemic blood pressures of these hypoxic animals were similar. The immediate effects of the intrapulmonic positive and negative pressure type of resuscitator are illustrated in figure 2 *B* with records obtained with the Emerson resuscitator, while those of the intrapulmonic intermittent positive pressure type of

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resuscitator are illustrated in figure 2 *C* with records obtained with the Kreiselman "bellows." The thoracic, left ventricular and right ventricular pressures were increased during the inflation of the lungs. These increases in ventricular pressures, however, were entirely passive, since the effective net ventricular pressure showed no change during the inflation phase. Restated, this means that any blood flow which was produced by the resuscitators did not reach the coronary and cerebral arteries. Instead, blood was pushed toward the extremities and cutaneous areas. The absence of any change in net ventricular pressures also means that inflation did not significantly modify the blood pressure distending either ventricle and it did not change the effective net pulmonary arterial or venous pressure. Dogs with acute cardiorespiratory failure have elevated systemic venous pressure (fig. 2). This may account for the fact that 10 to 12 mm. of mercury positive pressure inflating the lungs did not significantly hinder venous return. This is in agreement with the observation[5] that increases in the intrathoracic pressure in patients with congestive heart failure did not significantly hinder venous return to the heart. It is important to emphasize, however, that intrapulmonic positive pressure above 10 to 12 mm. of mercury, if maintained for prolonged periods of time, may hinder venous return to the heart. There was no evidence to substantiate the theory that resuscitators employing positive-negative intrapulmonic pressures could empty or "milk" enough blood from the capillaries of the lungs to increase the return of blood to the heart effectively.[6]

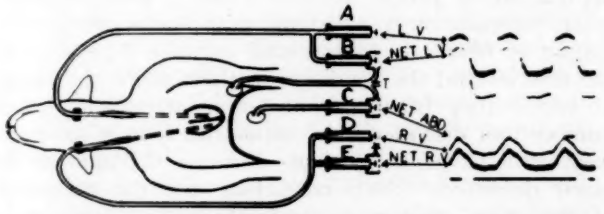

Fig. 1.—Diagram showing method of recording gross pressures and net pressures in unanesthetized animals with closed chests. Hollow stainless steel sounds were inserted in the left and right ventricles, and balloons were placed in the thoracic and abdominal cavities. The net pressure is the actual effective pressure and is the gross pressure in the structure or organ minus the pressure acting on the outside of that structure or organ. Manometer A records the left ventricular pressure (*L V*). Manometer B records the net left ventricular pressure (*net L V*), which is the ventricular pressure minus the thoracic pressure acting on the outside of the ventricle. Increases in the thoracic pressure may increase the left ventricular pressure, but it also compresses the coronary vessels. Therefore the thoracic pressure must be subtracted from the systemic arterial pressure in order to evaluate the effective net pressure to the coronaries. This was accomplished by means of the differential manometer B, where the left ventricular pressure is led to the back of the manometer and the thoracic pressure is led to the front chamber of the manometer. Manometer D records the right ventricular pressure (*R V*). Manometer E records the net right ventricular pressure (*net R V*). This is the right ventricular pressure minus the thoracic pressure acting on the outside of the ventricle. Increases in the thoracic pressure may increase the right ventricular pressure, but this is a mere passive rise since it also increases the pressure on the outside of the pulmonary vessels. Therefore the thoracic pressure must be subtracted from the pulmonary arterial pressure in order to evaluate the effective net pressures in the pulmonary circulation. This was accomplished by means of the differential manometer E in a manner similar to that described for manometer B. Manometer C records the net abdominal pressure (*net ABD*). This is the abdominal pressure minus the thoracic pressure and is the effective net pressure which facilitates or hinders blood flow from the abdominal venous reservoir (inferior vena cava and portal system) to the right side of the heart. Increases in the abdominal pressures effectively increase blood flow to the right heart only when a corresponding rise in thoracic pressure does not occur. The tube *T* from the balloon in the thorax is also connected to the front chamber of manometer E. See the asterisk (*).

When cardiac as well as respiratory arrest was produced either with helium or by electrically induced ventricular fibrillation (fig. 3), recovery was not accomplished with any of the mechanical artificial methods of resuscitation studied. Again, irrespective of the method of resuscitation chosen, the pressure changes were not significant and were similar to those shown in figure 2. These results, however, differ from the effects of deep spontaneous breathing and dying gasps.[4] Deep forceful breathing, even in the presence of complete cardiac arrest, repeatedly increased venous return to the right ventricle and to the pulmonary vessels and also moved some blood from the pulmonary vessels on into the left ventricle. These same changes are more pronounced during "dying gasps," where the effective net left ventricular pressure is sometimes elevated to values as high as 60 mm. of mercury.

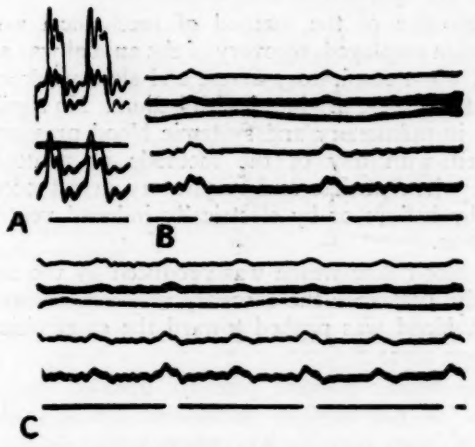

Fig. 2.—Pressure records from dog from above downward: left ventricular, net left ventricular, thoracic, right ventricular and net right ventricular pressures and line interrupted at two seconds intervals. Upper left tracings were obtained when respiration was normal and before production of anoxia. Upper right tracings were obtained while respiration was maintained with Emerson resuscitator and after severe anoxia had been produced by helium and carbon dioxide absorption technic. Respiratory arrest and slow weak cardiac contractions were present. Lower tracings were obtained one minute after recording the upper right tracings and while respiration was maintained with Kreiselman "bellows." During the inflation phase (arrows) with the Emerson resuscitator or with the Kreiselman "bellows" the thoracic pressure and the right ventricular and left ventricular pressures are increased. But the effective blood pressure and the net left and net right ventricular pressures are not increased.

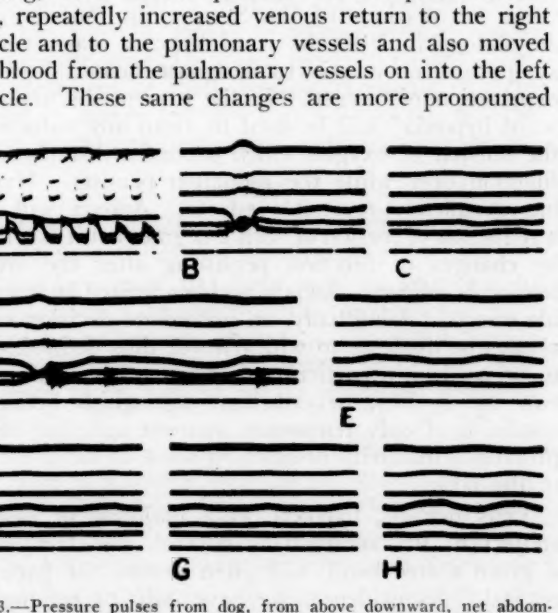

Fig. 3.—Pressure pulses from dog, from above downward, net abdominal, left ventricular, net left ventricular, thoracic, right ventricular and net right ventricular pressures. Time line is interrupted at two second intervals. Pressure scales for top tracing of the net abdominal and for bottom tracing of the net right ventricular pressure are shown in units of 25 mm. of mercury. *A*, normal control tracings; *B*, Emerson resuscitator; *C*, Kreiselman "bellows"; *D*, Emerson respirator (iron lung) + 2 cm. of water and — 15 cm. of water; *E*, lung ventilator; *F*, artificial pulmonary ventilation for operating room (Mautz model); *G*, anesthetic machine (10 mm. mercury); *H*, anesthetic machine (20 mm. of mercury).

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SUMMARY AND CONCLUSIONS

Seven different forms of mechanical artificial respiration were studied for their influence on the pulmonary and systemic blood pressure. This was made possible by employing a new technic for measuring the effective pulmonary and systemic blood pressure in laboratory animals not operated on and unanesthetized.

Irrespective of the method of mechanical artificial respiration employed, recovery of the animal was accomplished when respiratory arrest and slow weak cardiac contractions were produced with helium. No significant change in pulmonary and systemic blood pressure was produced with any of the methods of resuscitation studied when cardiac and respiratory arrest occurred, either by helium or by electrically induced ventricular fibrillation.

Any blood flow which was produced by the resuscitators did not reach the coronary and cerebral arteries. Instead, blood was pushed toward the extremities and cutaneous areas.

Intrapulmonic positive pressure greater than 10 to 12 mm. of mercury, if maintained for a prolonged period of time, may hinder venous return to the right side of the heart.

The so-called "milking action" of the intrapulmonic positive-negative type of resuscitator did not effectively increase the return of blood to the heart.

THE RELATION OF ANESTHESIA TO HYPOXIA AND ANOXIA

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At the sessions of the Section on Pathology and Physiology in 1940 the word hypoxia was used in a symposium on anoxia to designate milder degrees of deprivation of oxygen. In the present discussion the word hypoxia [1] will be used to mean any reduction in the tension of oxygen which produces disturbances of function only while the reduction persists. Hypoxia has completely reversible effects. Anoxia will mean a reduction of tension of such a degree that it is followed by changes of function persisting after the lowered tension is relieved. Anoxia is characterized by irreversible effects. Admittedly, an immediate decision cannot always be made as to which word, thus defined, ought to be used on a particular occasion. The use of these two terms does, nevertheless, distinguish between a condition of only temporary moment and one causing prolonged inactivity or death of some or all of the cells of the body.

Thus defined, hypoxia, in a majority of cases, is subject to the anesthetist's control. In fact nature, if given a free hand, will often restore the patient to normal. As evidence, we have only to recollect the instances when friendly scuffles, wrestling matches, choking spells and the like have resulted in more or less extreme cyanosis but following which no permanent harm has resulted. Anoxia, on the other hand, is an intolerable condition and, once it is initiated, the effects are not amenable to successful treatment. Anoxia is usually preceded by a period of increasing hypoxia. For this reason the anesthetist must be familiar with the recognition and treatment of hypoxia.

DETERMINATION OF ADVENT OF ANOXIA

The advent of anoxia during a particular anesthetic administration to a particular patient will be determined by (1) the presence and extent of physical abnormalities or disease, (2) the presence and extent of reduction in the tension of oxygen to which the tissues are subjected and (3) the duration of exposure to such reduction in tension. As long as anesthetics were administered only to relatively normal subjects for minor operations of short duration, the problem of the transport of oxygen during anesthesia could be left largely to care for itself. As the surgeon has expanded the scope of his endeavor, a greater number of patients are encountered in the highly susceptible groups whose "margin of safety" is subnormal. Many of the commoner causes of inadequate delivery of oxygen to the tissues have been considered in a previous paper [2] and will not be repeated here. They are obvious to careful diagnostic observation. Forewarned is forearmed. If he realizes the danger, the anesthetist can usually help the patient to overcome defects in transport of oxygen by the selection of appropriate methods and scrupulous application of proper technic. He is less fortunate when he encounters a patient with variations in the supply of blood to an essential region. The size of the arteries and the condition of their walls, the angle at which they branch from larger arteries and the number and distribution of capillaries in a given area may, in a particular patient, decrease the amount of blood delivered. Such conditions and the existence of the more obscure biochemical abnormalities in a patient's tissues exaggerate the effect of commoner defects in transport. Prolongation of anesthesia and the exact adjustment of dosage necessary to facilitate delicate and protracted operations increase the possibility of technical error or accident in administration. Physical abnormality and disease predispose the patient to greater damage from these hazards.

Whether anoxic effects are reached in a given patient will then depend on the relative degree of reduction in the tension of oxygen and on the duration of such reduction. The old adage is accurately fulfilled that "what is one man's meat is another man's poison." The terrific strain to which the military aviator subjects himself with safety on some occasions is ample evidence that both the degree and the duration of hypoxia may be considerable in a healthy person without apparent harm. In contrast, one need only gain the confidence of a hostess on a civilian transport plane to learn of the greater severity of symptoms resulting from far lesser decreases in tension in many supposedly normal civilian passengers. The patient handicapped by anatomic abnormality, by illness, by injury or by depressant drugs is merely a person with still less tolerance. Such a person may safely endure a very moderate degree of hypoxia for a considerable period of time or a greater degree for a very short period. The limit is an individual matter. His safety under anesthesia will depend on intelligent supervision, early

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recognition of hypoxia, identification of its cause and application—sometimes instantaneous application—of the proper remedy before anoxia occurs.

PRACTICAL CONSIDERATIONS

Our search for new drugs has so far failed to find even one which will relieve pain without adding the hazard of hypoxia either by its primary or by its secondary effects. It is true that the manner in which danger threatens varies with different drugs. But whether we administer procaine to make the field of operation insensitive, a derivative of barbituric acid to cause unconsciousness, or ether to produce profound anesthesia, the road to disaster passes through hypoxia to anoxia in a majority of cases. The tragic results of total deprivation of oxygen have been appreciated by anesthetists for a great many years. That these effects have been emphasized and elucidated in recent times by the psychiatrist and the pathologist is most fortunate. One wonders, however, whether an undesirable result may not be creeping into our attitude. Are we "becoming jittery on the subject"? We ought not to fear hypoxia but rather become familiar with it that we may recognize it early and treat it promptly. To the experienced anesthetist hypoxia should be a zone of warning, constituting a margin of safety which must not be exceeded if the patient is to be protected from harm.

How are we to recognize this zone of warning? Physical signs are described in the textbooks and are taught in medical schools. But practical experience is the best instructor. Many older anesthetists, of whom I am one, regard the present condemnation of nitrous oxide as deplorable. By its neglect we are depriving our students of the opportunity to become familiar with hypoxia under circumstances which can be made harmless. J. Q. Colton, the lecturer on chemistry who introduced nitrous oxide to Horace Wells, utilized and taught a method of administering the pure gas (without oxygen) for the painless extraction of teeth. Literally hundreds of thousands of persons have had minor operations performed painlessly and safely by this method. Those who used it wisely recognized its limitations: physical abnormalities and disease were avoided, the degree of hypoxia was moderate and the duration of administration was brief. Nitrous oxide does not relax skeletal muscles. Attempts to produce this effect have been responsible for its unpopularity. That it is effective for relieving pain in concentrations of 35 per cent and that it produces unconsciousness within ten minutes in concentrations of from 40 to 60 per cent seems to have been overlooked by many.[3] To the uninitiated the rapidity of interchange of oxygen and nitrous oxide between the atmosphere inhaled and the tissues of reasonably healthy individuals is unbelievable. With apparatus adequate for the rapid manipulation of these two gases the beginner may be taught the characteristics of varying degrees of hypoxia and the technic of reversing their development at will. The anesthetist who has studied hypoxia under such safe and controlled conditions is in a better position to recognize and treat it early when it is encountered under less favorable circumstances. Let no anesthetist quote these statements to his surgeon as justification for the prolonged presence of cyanosis. On the other hand, it is to be hoped that no surgeon will use them to badger a conscientious anesthetist. A brief period of hypoxia in a healthy patient, whether produced inadvertently or for purposes of instruction, need not be harmful. A similar period of deprivation may result in anoxia and be fatal to a patient in cardiac decompensation. It ought always to be borne in mind that cyanosis is an unreliable sign. When present, it usually indicates some degree of hypoxia. The absence of cyanosis gives no assurance that the tissues are adequately supplied with oxygen. A pink skin may accompany general hypoxia of biochemical origin or localized hypoxia caused by variations in the supply of blood to a particular region.

USE OF NITROUS OXIDE AND OXYGEN

The medical student and the young anesthetist must learn as much about hypoxia as possible under conditions which are safe for the patient. Such studies can be carried out safely on healthy patients while they are being anesthetized with nitrous oxide-oxygen. The control—the reversal of hypoxic conditions—is sometimes accomplished by increasing the percentage of oxygen in the atmosphere inspired. Oxygen is not, however, the only remedy necessary. Early recognition of obstructed, depressed or arrested respiration will require artificial airways, pressure inflation of the lungs or prolonged artificial respiration. The proper training of an anesthetist includes teaching which will familiarize him with all the multitudinous accidents, reflexes and physiologic defects which may be encountered That these occur but rarely does not excuse us from recognizing them. Only by early recognition of hypoxia can time be gained to restore normal conditions before the zone of warning has been passed. The prompt treatment of mild hypoxia is simple, that of prolonged or severe hypoxia may be difficult, but the treatment of anoxia will bring only disappointment.

SUMMARY

The state of anesthesia, however produced, predisposes to reduced tension of oxygen.

The word hypoxia has been used in reference to degrees of lowered tension which modify function only while the lower tension persists. The word anoxia has been used in reference to lowered tension of sufficient degree to produce persistent functional disability or death of cells.

The completely reversible nature of hypoxia constitutes a zone of warning which if recognized promptly and treated adequately will serve to protect the patient from anoxia.

The present unpopularity of nitrous oxide-oxygen anesthesia is regrettable. If used intelligently, the rapidity of interchange of these two gases can be utilized to teach the recognition and treatment of hypoxia.

Wisdom seems to dictate to the anesthetist an attitude toward his work which apprehends the imminent possibility of hypoxia at all times. Without this attitude any anesthetic drug administered by any method is dangerous. With this outlook any agent administered by any technic is relatively safe.

1300 University Avenue.

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PEDIATRIC ASPECTS OF ASPHYXIA NEONATORUM

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CHICAGO

When Elisha, the prophet of Ancient Israel, restored the life of a Shunammite woman's boy by blowing his breath into the mouth of the child, he forced oxygen and carbon dioxide into the lungs under pressure Add to this the obvious expedient of clearing the respiratory passages of the newborn and we have the essence of the modern treatment of asphyxia neonatorum.

A great deal of scientific research and clinical thought has been devoted to this problem during the last ten years, and real progress has been made. This activity has been stimulated by the still appalling death rate among infants [1] during the first twenty-four hours of life and also by the growing conviction that a large portion of mental and motor impairment in later life is due to insufficient oxygenation of the brain immediately after birth.

There is still wide disagreement on every essential involved in this problem, with two exceptions. All are agreed on the advisability of clearing the respiratory passages of débris and keeping the baby warm after delivery. There is disagreement about the use of carbon dioxide, oxygen, drugs of all kinds and cutaneous and other forms of stimulation, about artificial respiration in its various forms, about every instrument and machine so far devised and about mouth to mouth insufflation. I have made an extensive appraisal of the literature and will present what appears to be the preponderance of opinion concerning the essential elements of this problem. I have given consideration not only to the number of writers holding a certain notion but also to the extent of the research which backs up that notion and the care with which it was executed. This applies both to scientific and to clinical research. To quote each of these writers individually would obviously be too tedious.

ETIOLOGY

Anatomic Factors.—In addition to malformation of the circulatory and respiratory organs, one must think of diaphragmatic hernia,[2] hypoplasia of the mandible [3] and abnormal mobility of the tongue.[4]

Obstetric Factors.—The preponderance of the opinion of the most careful observers indicates that the incidence and severity of asphyxia neonatorum is directly proportional to the amount of operative work done,[5] also that it is directly proportional to the amount of anesthesia used in delivery [6] and to the amount of narcotics given to the mother a short time before delivery.[7] However, some observers specifically state that both anesthetics and narcotics may be used with discretion at a minimal risk.[8]

Physiopathologic Factors.—Most observers agree that prematurity [9] and intracranial hemorrhage [10] are the two most important single causes of severe asphyxia of the newborn. Other obstetric factors such as prolonged labor and compression of the cord need only to be mentioned.

The term congenital atelectasis is of little value, since it gives no clue to the reason the air sacs fail to function. Is the cause anatomic or physiologic? Obviously damage to the brain stem by hemorrhage or other causes can inhibit the respiratory function. Obviously also prematurity and other debilitating conditions which weaken the muscular power or the general physiologic state are responsible in many cases. But what about the large number of cases of cyanosis in which none of these anatomic, obstetric or specific pathologic states exist?

The great majority of writers follow Henderson's conception that carbon dioxide is the normal physiologic regulator of respiration. However, Eastman has challenged the whole idea when applied to this problem. He argues that the fetus exists normally in a state of cyanosis,[11] that there is an excess of carbon dioxide in asphyxia neonatorum which fails to initiate respiration,[12] that asphyxia neonatorum is analogous to experimental asphyxia and that in his experience oxygen is superior to carbon dioxide in initiating respiration in the asphyxiated experimental animal.[13] A number of writers [14] agree with Eastman. Henderson admits the excess of carbon dioxide in the asphyxiated newborn. He states that in long labor the respiratory center of the brain is dulled by compression and the concomitant reduction of blood supply. Even the increased carbon dioxide of the asphyxiated baby is not sufficient to start respiration.[15] Therefore even greater quantities should be administered therapeutically. Referring to the work of Haldane and his co-workers, Henderson asserts "From their work and those who have confirmed and extended it, it is as certain as anything in the whole range of modern science that respiration is under a chemical control by the more or less direct action of arterial blood, chiefly through its content of carbon dioxide, on the respiratory center of the brain. It has been proved oxygen is not a stimulant. . . ." [16] No one can deny that Henderson's point of view is accepted by the great majority of writers.[17] However, it does not necessarily follow that carbon dioxide should be given to an infant whose brain is already overloaded with this gas.

The after-effects of sublethal asphyxia on the central nervous system need more emphasis than they have received. The most highly specialized tissue of the body is the most susceptible to damage from anoxemia. It has been conclusively demonstrated that irreparable damage is inflicted on the nerve cell by relatively short periods of oxygen want. Windle and Becker,[18] by clamping the umbilical cord or the uterine artery for short periods, demonstrated these changes in guinea pigs.

Yant [19] and others have demonstrated that asphyxia results in congestion, in perivascular edema and hemorrhage into nerve tissue and finally in destruction of the neuron.

TREATMENT

The trend of opinion is very definitely away from all types of cutaneous and other peripheral stimulation. Most authors condemn [20] severe types of stimulation such as hot and cold baths, spanking, swinging,[21] dilation of the anus or artificial respiration [22] with such adjectives as antiquated, useless, barbaric.[23] However, some still recommend or at least condone [24] them.

It is obvious that the air passages should be cleared of débris when it is present and that the baby should be kept warm. Most writers advise removal of débris

Read before the joint meeting of the Section on Nervous and Mental Diseases and the Section on Anesthesiology at the Ninety-Fourth Annual Session of the American Medical Association, Chicago, June 16, 1944.

Owing to lack of space the bibliography on pediatric aspects of asphyxia neonatorum, to which the superior figures in the text refer, is omitted in THE JOURNAL but will appear in the reprints.

by suction through a catheter, its introduction being guided by the left index finger in the pharynx.[25] Several apparatuses have been devised with side traps to catch the mucus.[26]

Flagg,[27] who has given a great deal of attention to this problem, champions the direct laryngoscopic method of clearing the passages, followed by insufflation of the lungs with carbon dioxide and oxygen, if necessary. Many favor Flagg's method.[28] In general, obstetricians feel that they have sufficient experience to do the job dexterously without a laryngoscope.

This important question remains: If the infant does not breathe spontaneously, what shall be done to initiate respiration? I shall discuss separately each procedure commonly used.

First: Drugs. The most favored is intracardiac epinephrine.[29] There are reports of infants revived by this means after five, ten or twenty minutes have elapsed without any detectable signs of life, during which time all other ordinary methods had failed. Other drugs less frequently advised are posterior pituitary injection,[30] alpha-lobeline [31] and nikethamide.[32] These are usually given subcutaneously.

Second: Mouth to mouth insufflation. Opinion is rather evenly divided on the value of this procedure. Many advise it.[33] Some advise against it because of the contamination from the operator's breath.[34] Others believe the control of the pressure is not accurate enough and rupture of the alveoli may occur.[35] One author advises placing several layers of gauze over the operator's mouth to filter out bacteria. Another devised a special apparatus to meet this problem.[36] Others use a catheter in the trachea.[37]

Third: Drinker type of respirator. Here, again, opinion is divided.[38] Each side cites clinical and autopsic evidence. In general, opinion seems to be swinging away from the use of this type of apparatus.

Fourth: Other types of respirators. Alternately controlled negative and positive pressure instruments are now favored by many.[39] This type of apparatus is similar to that used in giving a closed anesthetic, using a small mask over the baby's face. Thus the gas or mixture of gases can be forced into the nonexpanded lungs by alternating negative and positive pressure. The instrument is adjusted so that the positive pressure does not exceed a specified limit, usually 14 mm. of mercury. Some advise a collapsible rubber bag fitted to an infant mask. The gas to be administered is forced into the respiratory passages by manual pressure.[40] This bag arrangement is simple, inexpensive and easily transported but lacks the automatic control of the respirator. These are the most satisfactory types of apparatus yet devised and are regarded as harmless by most writers. However, some believe they may cause rupture of the alveoli.[41] They do away with the chief objection to the mouth to mouth insufflation, i. e. contamination from the operator's breath.

The principle of rhythmic expansion and collapse of the lungs is based on sound physiology. Sampson Wright [42] in his Textbook of Applied Physiology, quoting Head's experiments, states that if the lungs are forcefully expanded a prolonged expiratory effort is produced, and if the lungs are collapsed a strong inspiratory effort is produced. These results are not obtained after section of the vagus. Other physiologists recognize these reflex actions. Howell [43] regards the reflex caused by expansion as the more significant of the two. Coryllos [44] thoroughly tested the mechanics of one of these respirators known as the E and J resuscitator. He states that the pressure is constant and that in an opened dog's chest rupture of the alveoli does not occur until the positive pressure exceeds 52 mm. of mercury. Birnbaum and his collaborators [45] have reported resuscitations in advanced experimental asphyxia with a similar positive (14 mm. of mercury) and negative pressure (—9 mm. of mercury) machine known as the Emerson resuscitator. These animals had ceased to breathe with a rapidly falling blood pressure and would ordinarily have died. Breathing was reestablished in 85 per cent of these animals by forceful rhythmic expansion and contraction of the lungs, although he used an inert gas. He thus demonstrated the aforementioned reflexes.

Considering the problem as a whole it does not make a great deal of difference what method is used to expand the lungs rhythmically. One may use mouth to mouth insufflation or a collapsible bag and mask or a positive and negative pressure respirator to inflate the lungs rhythmically. But if the newborn infant fails to breathe it is mandatory that the lungs be inflated rhythmically by one of these means. The objection that the alveoli may be ruptured has been brought against each of these methods, but this must be put aside in such a grave situation because there appears to be little else of value in initiating respiration after the air passages have been cleared.

Fifth: Oxygen versus carbon dioxide. Whether one uses pure oxygen or 95 per cent oxygen with 5 per cent carbon dioxide is an academic question. A cyanotic baby's brain must be overloaded with carbon dioxide. Why give it more? On the other hand, it seems that there can be little difference between the efficacy of 95 per cent and 100 per cent oxygen.

SUMMARY AND CONCLUSIONS

The following outline for the treatment of severe asphyxia of the newborn is dictated by the consensus of the best opinion on this important question:

1. Avoid severe cutaneous or other types of peripheral stimulation, such as hot or cold baths, spanking, swinging and dilation of the anus.
2. Avoid manual types of artificial respiration. Opinion is now also swinging away from the infant Drinker respirator.
3. Keep the baby warm from the moment of birth.
4. Clear the air passages with direct laryngoscopic methods or by suction through a catheter introduced by the sense of touch.
5. If the baby does not breathe spontaneously, oxygen or a mixture of 95 per cent oxygen and 5 per cent carbon dioxide should be rhythmically forced into the cleared passages. This may be done with a controlled alternating positive and negative pressure apparatus or by the use of a rubber bag attached to a mask or by mouth to mouth insufflation or by the operator's breath through a tracheal catheter.
6. It makes little practical difference whether one uses oxygen or a mixture of 95 per cent oxygen and 5 per cent carbon dioxide.
7. One may use drugs such as epinephrine in the heart muscle or alpha-lobeline or nikethamide, subcutaneously, if one is so inclined.

There are some authors who believe that none of these things are effectual in the initiation of respiration. However, few wish to assume such a helpless attitude.

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. VOLPITTO, WOODBURY AND ABREU, DR. WATERS AND DR. BIGGS

DR. HUBERTA M. LIVINGSTONE, Chicago: As pointed out by Dr. Biggs, vigorous methods of resuscitation in the newborn are to be condemned. Nevertheless there should be no delay in rapidly and thoroughly clearing the upper air passages and gently and rhythmically inflating the lungs by mouth to mouth insufflation or the use of oxygen or carbon dioxide-oxygen mixtures. Postnatal oxygen should be used until ventilation is adequate. Dr. Waters has clearly emphasized the anesthetist's responsibility for the recognition and treatment of hypoxia or anoxia. This condition may be produced by the improper use of any of our anesthetic agents. Blood arterial oxygen studies have demonstrated that hypoxia or anoxia is not present when nitrous oxide or ethylene is used correctly. The work by Drs. Volpitto, Woodbury and Abreu substantiates the finding that prolonged, excessive intrapulmonic pressures interfere with cardiac function. We have demonstrated in dogs a lowering of the systemic blood pressure with 10 to 15 mm. of mercury of intrabronchial pressure, and right heart failure with higher pressures. Apparatus for delivering oxygen or anesthetic mixtures should be equipped with check valves to prevent increasing intrapulmonic pressures to a dangerous level. Certain methods of anesthesia as well as resuscitation may involve this hazard. The efficiency of various methods of resuscitation is of vital importance. The rocking method recently advocated by Eve deserves further investigation. Anesthetists must appreciate the vital need for the early recognition and treatment of any manifestation of oxygen want. They must also observe the amount of blood loss and see that adequate red blood cell replacement is made to provide not only sufficient circulating blood volume but enough hemoglobin for the transportation of oxygen. Buxton and White have recently reported the unappreciated magnitude of blood loss in even the less extensive surgical procedures. Studies made at the University of Chicago Clinics substantiate these findings, and clinical and experimental evidence emphasizes the importance of adequate whole blood replacement during the period of hemorrhage in order to prevent shock and associated anoxia.

DR. W. H. CASSELS, Chicago: The distinction which Dr. Waters has made between hypoxia and anoxia is a helpful concept. If we regard hypoxia as the margin of safety between adequate oxygenation and irreversible tissue damage, our attitude toward oxygen want will be much better balanced. It remains of course for each anesthetist to acquire by his own experience and by instruction good clinical judgment as to how wide that margin of safety is in each case. I agree that the anesthetist in training should be given opportunities to familiarize himself with the manifestations of hypoxia. Too many of us, in our fear of any degree of oxygen want, have neglected this phase of teaching. Drs. Volpitto, Woodbury and Abreu throw valuable light on the dynamics of circulation. The anesthetist becomes familiar with the dynamics of respiration because respiratory activity is easily observed. He is therefore able to deal rationally with respiratory emergencies. If we could acquire equal familiarity with the dynamics of circulation we would be better able to cope with circulatory emergencies. Drs. Volpitto, Woodbury and Abreu help us to understand one aspect of this and to evaluate the efficacy of treatment. In fact they have brought out some interesting interrelationships between the dynamics of respiration and circulation. The whole question of resuscitation is too confused in the mind of the average physician. This is because instruction in this matter is too confused or is sadly lacking in many medical schools. The term resuscitation is applied indiscriminately to entirely different methods of treatment for entirely different types of emergencies. Naturally the treatment often does not fit the emergency. If we will differentiate four types of acute emergencies we can resort to appropriate treatment in each case. Respiratory emergencies may involve (1) respiratory obstruction, to be treated by relief of the obstruction, (2) respiratory arrest, to be treated by artificial respiration, or (3) a combination of respiratory obstruction and respiratory arrest, to be treated by relief of obstruction followed by artificial respiration. The fourth emergency is cardiac arrest. This inevitably involves respiratory arrest. Artificial respiration is indicated, but, as Drs. Volpitto, Woodbury and Abreu show, it alone is not enough. Steps must be taken to restore circulation. Various steps may be taken of which I will take time to mention but one, rhythmic squeezing of the heart. This has usually been referred to as cardiac massage, but I would suggest that it should be called artificial circulation. If artificial respiration and artificial circulation are maintained, anoxia should be prevented and normal function may be restored.

DR. R. P. MACKAY, Chicago: I am interested to hear Dr. Waters say something in favor of nitrous oxide anesthesia. I rise to express again doubts that have been expressed by so many before me. He speaks of the usefulness of nitrous oxide in "properly selected cases," but unfortunately he does not give us any detailed information on exactly how to select our cases properly. Presumably we should give particular attention to the cardiovascular efficiency of these individuals. Certainly I believe that nitrous oxide is sufficiently dangerous to warrant particular attention to the heart and circulation before we dare use such an anesthetic. I am particularly concerned over the prevalence of the use of nitrous oxide anesthesia in dentists' offices and other places where minor operations are to be done and where no proper selection of cases can be made. I believe that we must continue to look on nitrous oxide as a dangerous anesthetic.

CAPTAIN W. ALLEN CONROY, M. C., A. U. S.: I am happy to hear the emphasis by Dr. Biggs on the dynamic method of resuscitation of the newborn infant. Many of us have emphasized it for a long time. We have had difficulty in putting the idea across with our obstetric colleagues, not because they were against new ideas but because we did not show a sufficient interest in their problem and help them with it. Those who will give a few anesthetics in obstetric cases will soon have an opportunity to demonstrate their methods of resuscitation. A good many times when the obstetrician is going to be busy with the mother he would be glad to have somebody in the room who can take care of the baby. At that time you will have the chance to throw overboard some of the ineffective methods and use a simple method involving the moving of oxygen in and out of the lungs. The infant that may be resuscitated short of what Dr. Waters calls anoxia still has some circulation. If we move oxygen into the lungs from our lungs or from the simple bag and mask, that infant will revive. His difficulty is not an obscure one; it is simply that he is anesthetized by nonvolatile and volatile drugs and, more important, anesthetized by anoxia. His respiratory center is close to death from lack of oxygen and not from lack of carbon dioxide. His carbon dioxide is probably normal and may be elevated. Regarding Dr. Biggs's remarks about the state of the infant in utero, I cannot help but feel that somebody has confused the issue of asphyxia with that of cyanosis. The implication that cyanosis itself is due to carbon dioxide accumulation is false. Many have overlooked that vital distinction. In the matter of recommending what to use for resuscitation, I think we are becoming remiss in even excusing the use of carbon dioxide. We should insist on its abandonment because of the narcotic effect of that substance itself. If we excuse 5 per cent, we shall find 10 per cent, 15 per cent or some unmeasured amount being used as the result of our excusing the smaller amounts.

DR. PERRY P. VOLPITTO, Augusta, Ga.: I think it is always worth mentioning at any time when resuscitators are discussed that we should focus our attention always on the principle of avoiding catastrophes—that is, avoiding circumstances in which these various types of apparatus might have to be employed. Of course, when the occasion comes to use them the proper application of resuscitative equipment is necessary. It is always timely to condemn the placing of mechanical apparatus for resuscitation in the hands of lay persons and medical men not familiar with their use.

DR. RALPH M. WATERS, Madison, Wis.: I suppose that I was due to have to defend my statement of good will toward nitrous oxide. In obstetric anesthesia I prefer nitrous oxide for release of pain more readily and emphatically than any other agent because of the rapidity with which changes can be made and the baby can be oxygenated in utero or at the end of

delivery. I stated that when Dr. Colton talked about anesthesia for dental extractions he recommended three things: first, that it be used in relatively normal individuals, second, that it be used for short periods and, third, that it be used with mild hypoxia and never with anoxia. It is true that thousands of patients were anesthetized that way, and safely. We have been making studies in recent years along this line. Dentists have seen long anesthetics administered with other agents, and they try to do with nitrous oxide what is done with the other agents. If they would look at the technic used before 1900 they would not have the difficulties we are seeing now. Finally, I want to emphasize another idea: Do not think that oxygen is a sole remedy, that if it is available it will take care of any situation. It will not. It must get into the lungs and into the blood and into the tissues. I have had several experiences that have resulted in brain damage. One was due to electric shock. Before the patient and I had recovered from the electric shock, permanent damage had taken place in the patient's brain. I think we must remember that the anesthetist handling the oxygen must get it where it belongs and must recognize the danger of lack of oxygen. We must retain the term "hypoxia" as a safety ground, not say that we must use no nitrous oxide but rather that we will use nitrous oxide to learn what hypoxia is and thus protect ourselves from injury.

DR. ALFRED D. BIGGS, Chicago: Just one comment about the defective child having a good memory: A mother is always on the defensive concerning a defective child. She is looking for a redeeming feature. Although the memory is poor, the child does remember certain things. This fact is her main consolation, so she dwells on it.

ROLE OF INDUSTRIAL MEDICINE IN THE REHABILITATION OF VETERANS

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The significance of my remarks will be confined to what they actually are; namely, the personal observations of a physician in an industry which is aware of its responsibility to some of these veterans. Table 1 lists the group studied.

One cannot talk about generalities and with these generalities settle any one particular case. The actual disposition and training of "G. I. Joe" is an individual problem, requiring individual evaluation and individual disposition; it may be incorrect to apply to any 1 case the general opinions gained from studying the group of veterans which we have handled so far. This necessarily individual evaluation is no more true of "G. I. Joe" than it is of John Doe or Mary Doe, the ordinary civilian.

I should like to classify veterans as (1) those who have or have not been former employees and (2) those who have or have not service connected disabilities. I think it is obvious that the primary responsibility of manufacturing industry is to the former employee with a service connected disability.

Tables 2 and 3 show the percentage of workers gainfully employed during peacetime by industry as a whole. Approximately 15 to 24 per cent of gainfully employed persons have worked in manufacturing industry, so that this class of industry will be expected to absorb at least 15 to 24 per cent of the returned veterans, possibly more.

Another factor that must be considered is that under present seniority rules it is our impression that, strictly on the basis of seniority, approximately 15 per cent of our former temporary employees-inductees do not have, again speaking seniority-wise, a right to a job until some 7,000 former permanent employees who have longer seniority are placed at work. This is true if our long term seniority employees do not lose their seniority in the meanwhile. I do not wish to attach any more significance to these statements other than to say that these factors must be considered by those boards or committees which are exit interviewing soldiers about to be discharged. At present, industry is able to absorb practically all veterans discharged. However, there is a problem coming up which some such conference as this may help to solve.

PHYSICAL AND MENTAL CONDITIONS OF VETERANS NOW BEING SEEN

Table 4 lists the type of disability which is present. It will be noticed that the neuropsychiatric group amounts to a large fraction of the whole. It is in this group that problem cases arise. It is not surprising, because frequently inability to adapt to army life leads to or brings out the psychoneurotic tendencies of these people. I do not agree with the usual description that they are "simply nervous." If we are to be guided by our experience with the members of this group, they are for the most part real psychoneurotic individuals who have sublimated their mental distress into the more material complaint of pain or dysfunction of certain parts of the body. A few case histories later illustrate this point.

The other groups are rather typical of what is found in the civilian population, in the realization that at present industry is accepting employees who possibly would not have been accepted during peacetimes.

We find that there is not much difference between the returned veterans as a whole and the civilian group as a whole. The fact that over 25 per cent of this group would not acknowledge their shortcomings is not unusual. It has been our experience that most applicants for a job will not reveal their shortcomings or their defects, because they think such shortcomings will lessen their chance of getting a job, which of course is occasionally true; so it is not surprising that, in spite of the fact that each of these veterans has an exit interview during which he is plainly told why he is being discharged, these same individuals were not willing to give promptly the cause for their discharge.

It should be recognized that not all veterans can safely be given a job in the field in which they wish to work. For instance, some with hypertensive or valvular heart disease should not be started on a training program intended to fit them for a laboring job. It is possible that such individuals could be trained to be crib attendants, time clerks or workers at some other nonlaborious type of occupation. We have classified physical conditions into four groups and correlated these groups with job placement possibilities.[1]

Table 6 shows how many are restricted in placement. Again the similarity to the civilian group is brought out. The 32 per cent of restricted placement of veterans is somewhat less than the number of civilians who have been restricted in placement because of physical or

Modified presentation at Conference on Convalescence and Rehabilitation, New York Academy of Medicine, April 26, 1944.

1. American Machinist, June 8, 1944.

mental defects. That they should be less than the civilian group is not surprising, because this veteran group has been examined and filtered once during the induction examination. It is interesting that the monthly turnover is approximately the same as that of the civilian group. The type of restrictions placed on

TABLE 1.—*Reason for Discharge and Service Connection*

Total all veterans			100%
Certificate of disability discharge			
Service connection known		7.2%	
Injury in camp	36	6.6%	
Injury in combat	3	0.6%	
Service connection not known	314	58.4%	
Total	353		65.6%
Over age	128		23.8%
Dependency	13		2.2%
Unknown	44		8.2%
Grand total	538		99.8%

TABLE 2.—*Role of Manufacturing Industry in Employment* *

Total gainfully employed in United States (1943)	53,000,000
Total employed in manufacturing industry (14.28%)	7,800,000
Estimated total of returning veterans	10,000,000
Manufacturing industry's share (based on 14.28%)	1,571,428

* World Almanac, 1944, pages 518 and 619.

these people is shown by the breakdown of a group sample in table 7. Taking two grab samples, one in our plant and one in an associated plant, we see some of the reasons why these people terminated their employment (tables 8 and 9). Table 10 gives an index of the performance of these men. Note that 84 per cent of these veterans show satisfactory work performance. The actual technic of retraining these people depends on a proper and thorough individual evaluation.

As a veteran comes to the employment department, either spontaneously or on stimulation by the

TABLE 3.—*Record of Employment: Average for Five Year Period 1936-1940* *

			Per Cent of Total
Agriculture (Including forestry and fishing)		11,000,000	24
Manufacturing (Fabrication of goods, from food processing to the assembly of automobiles and locomotives)		10,600,000	24
Other		5,500,000	12
(Mining	800,000		
Construction	1,900,000		
Transportation	1,900,000		
Public utilities	900,000)		
Trade, distribution and finance (Wholesale and retail trade, including restaurants and filling stations; banking, real estate and insurance; and business and repair services)		7,500,000	16
Government (Employees of federal, state and local government, including 900,000 school teachers)		3,700,000	8
Armed forces		400,000	1
Service and miscellaneous (Including personal services such as domestic workers, hotels, laundries and beauty shops, professional services, such as doctors and lawyers, and amusement and recreation)		6,500,000	15

* Derived from estimates of the National Industrial Conference Board and from government sources, as published in G. M. Folks, Aug. 4, 1944, vol. 7, number 8.

U. S. E. S. or some other agency, his record is immediately marked as being that of a veteran, he is given a thorough interview, his discharge papers are checked and, following a thorough medical examination and functional classification, depending on his knowledge and experience, he is either placed directly at work or trained either in a formal, separate training school, with pay, or, in some instances, trained directly on the job. The training period varies according to the individual's dexterity and rapidity of learning. As soon as he can be placed confidently in the factory, he is transferred from the training school. It might be added that the training facilities used are the same as those available for civilians. The only difference so far as veterans are concerned is that whenever these individuals are doing unsatisfactory work they are further and more thoroughly interviewed, and if it is felt that treatment by a physician is necessary they are so advised. Occasionally some of these interviews are in effect simply good personnel work in which the individual is advised of his privileges and of his responsibility to the soldiers who are still in service. In some instances it can be said that the veteran discharged without a service connected disability has a greater obligation to his buddies still fighting than industry has to him. One of our veterans expressed in his own way just such an obligation.

It should be kept in mind that our experience with veterans as employees has been mutually satisfactory, and only rarely do we come across a veteran who leans

TABLE 4.—*Types of Disability Leading to Discharge*

Disability	No.	Per Cent	Disability	No.	Per Cent
Neuropsychiatric	111	31.44	Hernia	10	2.83
Leg and foot defect	51	14.44	High blood pressure	9	2.55
Ear defect	28	7.93	Arm and hand defects	9	2.55
Eye defect	19	5.38	Dermatitis	9	2.55
Lung defect	16	4.53	Varicose veins	8	2.26
Back defect	15	4.25	Kidney defect	7	1.98
Heart defect	13	3.68	Endocrine	7	1.98
Stomach ulcer	11	3.16	Inaptness	5	1.41
Total	264	74.81	Total	64	18.11

	No.	Per Cent
	264	74.81
	64	18.11
Others	25	7.08
Grand total	353	100.00

on his service record and demands a certain job or a certain shift or certain privileges over and above those to which he is fairly entitled.

I give a few case histories of individuals who, in my opinion, are veterans only because the preinduction military service examination did not weed them out. I mention these cases not because they are typical but because it is just such a case as this that might cause the more deserving veteran some inconvenience (note the need of finding the "real" cause of discharge versus the "alleged" cause):

CASE 1.—W. T., a man aged 26 in excellent physical condition came to work in October 1943 discharged because of what he stated at that time was asthma. He worked satisfactorily for four months and then appeared in the medical department complaining of cramping pains in the abdomen and inability to work. He stated that ever since a jeep accident a year before he had had recurring attacks of abdominal pain, some of which were accompanied by vomiting. These attacks were terminated abruptly by rest in bed. The present attack came on slowly in the past two or three days.

Now from this history alone one would expect that this man had had an internal injury due to the jeep accident, but because of the flinching responses of the patient on examination and his failure to localize his cramps in any one particular spot, because repeated examination showed that what area was tender two minutes before was no longer tender, briefly because the examination suggested a psychoneurosis, considerable time was spent digging out the details of the man's life. It was found

that at 4 years of age he had swallowed lye, which gave him a stricture of the esophagus, for which he had two abdominal operations. These abdominal operations were completely successful. He had no attacks of cramps until the jeep accident. Extensive x-ray examinations had failed to show any internal injury. Since then, however, worry had brought on the attacks. His present worry is that his common law wife wants him to marry her, and that he does not wish to marry her because of what we shall call incompatibility. He states that he doesn't love her and yet he doesn't have the nerve to tell her so. I think the solution to this problem is obvious, even though court action may result, and during the solution I have no doubt that he will have more abdominal cramps. He returned to work on being reassured.

CASE 2.—R. E. T., a man aged 23, doesn't know why he was discharged on first examination in October 1943 and denied any dizziness or fainting at that examination. Four months later he came into the medical department, complaining of dizziness and shortness of breath and palpitation of the heart when he did heavy work or when bending over or stooping.

Physical examination gave entirely normal results. The following history was obtained: In 1939, 18 tobacco workers and he were in a truck that was struck by a drunken driver, killing a baby who was on the truck and 2 of the veteran's fellow workers and injuring many of his friends. The drunken driver also was killed. Our veteran was thrown, to quote him,

TABLE 5.—*Attitude of Veteran Toward Own Disability*

Acknowledged disability	245
Did not acknowledge disability	108
Total	353

TABLE 6.—*One Comparison with Present Civilians Working*

	Restricted Placement	Turnover per Month
Veterans	32%	6%
Civilians	43%	8%

"100 feet," spinning over and over (he became excited during this description), following which he spent ten days in the hospital. Ever since then, whenever he gets into any physical or mental distress, such as embarrassment or fatigue, he has shortness of breath and palpitation.

His service experience was this: On his twenty-fourth day in service he reported sick because of such an attack, and he spent three and one-half months in the service hospital, following which he was discharged. His work was satisfactory while he was working on an assembly job and while he was working as a truck driver, but because he was involved in an accident which was clearly the veteran's fault, he was taken off the truck driving job and moved to a material handling job.

His personal habits were good. He did not drink or smoke, and he attended church regularly. His hobby was billiards, and when I questioned him as to whether he had any dizziness while bending over the billiard table he asserted that he had never had any. I believe this man's attacks are a hangover from the short period of consciousness during which time he was being thrown "spinning" through the air after his automobile accident. He was told that his mind was playing tricks on him, was encouraged about his good physical condition and advised to return to work. He was given some stimulation of a patriotic nature, and he appeared to have benefited greatly from the two hour interview. He has done a satisfactory job since.

CASE 3.—R. G. V. P., a man aged 24, was seen in the medical department because he complained that heavy lifting "hurt his stomach." He was discharged from service because of "nervous stomach." After approximately forty-five minutes of talking about this and that he began to get down to business. He stated that while in service and on furlough he married a girl whom he had known for a year and a half. After two days of married life his furlough was up and he went back to the Army. Five months later, when he came home on furlough, his wife was frigid. On return to service he was seized with pernicious vomiting and symptoms of a "nervous stomach." He received another furlough in four months, during which

TABLE 7.—*Medical Restrictions in Plant A*

	No.	Per Cent
No restriction	322	77.22
No heavy labor	39	9.35
No exposure to loud noise	16	3.82
No climbing	12	2.88
No exposure to dust and fumes	11	2.64
Color blind	5	1.20
Other (less than 5 each)	12	2.88
Total	417	99.99

TABLE 8.—*Job Terminations in Plant A*

Laid Off	No.	Per Cent
Unknown	9	49.90
Physically unable	5	22.7
Intoxication	4	18.2
Cut in force	2	9.1
Insubordination	1	4.55
Failed to report	1	4.55
Total	22	100.00

time there was an open break with his wife. He threatened to divorce her. On return to service his vomiting increased. Two months later he had another furlough. During this time he learned that his wife was pregnant. She was abusive and profane to him and to her own parents. On return to service he was hospitalized for two months because of continued vomiting which necessitated feeding by vein.

He was discharged from service after recovery and worked in the plant for three weeks. During this time he had sought legal counsel and was advised that he divorce his wife. He was also under the care of his family doctor, but strangely enough he had never told his family doctor of the onset of his

TABLE 9.—*Job Terminations in Plant B*

Quit	No.	Per Cent
Didn't like the job	11	31.43
Unknown	7	20.00
Poor health	6	17.15
Leaving the area	3	8.57
Another job preferred	3	8.57
Back to school	2	5.71
Others	3	8.57
Total	35	100.00

TABLE 10.—*Job Performance in Plant A*

Quality of Services Rendered	No.	Per Cent
Very satisfactory	52	31.90
Satisfactory	63	38.65
Fair	48	29.45
Total	163	100.00
Not satisfactory	23	
No appraisal	8	
Total	31	

Satisfactory work performance, 84 per cent

vomiting. To humor the man and as a concession to his being a veteran, he was temporarily restricted from heavy lifting and was advised to avoid the use of intoxicating drinks. He was advised to become interested again in sports or some other hobby and advised to tell his family doctor all about his family troubles. Because he was intelligent, of good physique and good habits, I believe that he is going to make a good employee, once he gets rid of his cause of trouble; namely, his wife.

CASE 4.—S. G., aged 33, came into the medical department complaining that he couldn't stand noise or lifting, that both noise and lifting gave him pains in his arms and around his heart. He was discharged from service because of "flat feet," according to his history.

This man was a "mother's boy" all his life. He was in service a year and a half when he was discharged because of foot trouble, but on further analysis, the following story came out: He was devoted to his mother, who died three and a half years ago. He then had a nervous breakdown. Two years ago his fiancée left him because he was too irritable and too jittery, so she said. He was unable to adapt himself to army life because any drilling or exercising, or any heavy work, gave him pains in the arms and pains around his heart. He had good enough insight to know that there was no reason for him to have pains, and yet he insisted that he did have pains. He was thoroughly examined and studied for peripheral vascular disease with completely negative results. He was finally discharged from the Army, and since working at the plant he states he has made no friends, he has no hobby, and he just works, eats and sleeps. His lack of mechanical ability discouraged him. Because he had been a supervisor in a welfare agency under the W. P. A. he felt that he was not properly placed. He wanted to do personnel work. He was given rather a long talk in which it was pointed out to him that his W. P. A. welfare work did not fit him for any available jobs here. He was shown that his work was satisfactory to his foreman, and he was advised in general to buck up and gain more confidence in himself. This man definitely has an unstable personality which manifested itself in at least two nervous breakdowns even before his mother died. He is going to take considerable nursing, and it is not impossible that he may go downhill and develop a paranoid psychosis unless he learns to occupy his time with more than eating, sleeping and working. I will quote verbatim what this veteran said, because it gives an insight into the thoughts of some of these men:

"When I got my discharge papers, I felt glad, but then I felt bad. Then the world was a hazelike before me. I was glad to get out of the Army. I felt like a free man and I didn't feel so good getting out, knowing that I didn't make a good soldier. I didn't know what the civilians would think of me or what the other soldiers would think of me, but you see we're not soldiers, we're civilians but made over into soldiers, but we are not soldiers. We ain't professionals. And then I have been a mother's baby all my life. I didn't feel that I was being a man, getting out of the Army. But the Major told me 'Sid, maybe you can do a good job in the war effort. You can't do one here. Go home and do a good job for us out here.' And I knew all the time, just as I was talking to the Major, some of my buddies were getting killed."

I cite these 4 cases because if these men were handled in a disinterested way I am sure they would lose their jobs, either because of their professed inability to do their jobs, or because the foreman might have so much difficulty trying to understand them that he might discharge them. Whenever we come across any such personality problem, the foreman is advised of the situation and influenced to bear with the shortcomings of the individual during the readjustment period. Occasionally we run across men who are incorrigible and, in extreme cases, have had to refer them to the Veterans' Administration hospital facilities or some other appropriate agency.

Another aspect of the subject of veterans in industry is the procedure which we have used in handling veterans who need medical or welfare attention. When an emergency operation is necessary, the nearest Veterans' Administration hospital facility is contacted by phone. That hospital will then take up the disposition of the veteran if the disability is a service connected one; if the disability is non-service connected, the family physician then takes over the care of the nonindigent person, or the local hospital does. If the person is indigent, the local Red Cross chapter takes charge.

In nonemergency situations for service connected disabilities the veteran is referred to the nearest Veterans' Administration hospital. At present, local physicians are being designated as consultants for outpatient examination. For those veterans who are not emergency cases, who have non-service connected disabilities, community facilities must be relied on, such as the State Rehabilitation Commission of the Department of Labor or a local welfare agency.

I should like to request that the Veterans' Administration issue a directive, instructing all factories which employ veterans as to what to do with the various types of cases. In my opinion it is not sufficient to get the information for the veteran. It has been our experience that the veteran does not know where to turn or how to do what he is supposed to do in seeking aid.

SUMMARY

Manufacturing industry in the past has employed only 15 to 24 per cent of all people gainfully employed, and most of these employees, some 80 per cent of them, worked in factories with less than a total of 500 employees. The average number of employes per factory in the United States is approximately 42 per plant.

I would suggest that the Veterans' Administration set up a local medical or personnel consultant who will act as an adviser to those few veterans who were a community problem before they got into service, were a personality problem in service, and now as a veterans need a guiding hand.

Roughly 85 per cent of veterans working in industry will adjust themselves to their job with no more training or waste motion than industry is now experiencing with its present civilian personnel. I rather feel that training facilities will be available for those veterans, as well as for civilians, and I have no doubt that, as the more seriously injured veterans come back, industry will absorb its share, possibly more, in a way that will establish the veteran as a wage earner, in a manner that will instil confidence and respect for himself.

We have had so few really physically disabled individuals that at this writing we cannot evaluate the adequacy of our present training school or methods. I cannot give any experience with totally blind, armless or legless veterans. I believe we must keep in mind that industry is not primarily an occupational therapy institution and that, in order to survive, the training of the more completely disabled veteran must be on a basis that is fair to industry and inspiring to the individual.

CONCLUSIONS

1. Manufacturing industry, especially the small plants, needs a true record of the physical and mental status of returning veterans for proper job placement.

2. In the absence of an intrinsic medical department, some local Veterans' Administration office must function to evaluate physically and mentally the proper placement of the veteran. This agency is urgently needed now.

3. Eighty-five per cent of veterans now returning are satisfactory employees.

4. They differ very little from the civilian worker in industry today.

5. Some veterans need advice in reconstructing their own life. The need for such reconstruction frequently existed before their induction into service.

6. In one manufacturing plant, strictly on a seniority basis, 15 per cent of the short term employees who have gone in service will not have a right to a job until some 7,000 other individuals have been placed. Apparently there is a need for appraising the relative value of "seniority" and "being a veteran."

7. Manufacturing industry will probably employ one out of every seven veterans returning, according to our past experience.

8. There is an apparent immediate need for informing the various industrial plants as to what to do with a veteran who has either an emergency illness or needs medical or welfare help. A circular giving the names of the local agencies and phone numbers of the persons in charge of these local agencies is suggested. Such a circular could be issued by the Veterans' Administration service. Such an agency should be in operation now.

URINARY RETENTION FOLLOWING SURGICAL OPERATION ON THE RECTUM AND SIGMOID

TREATMENT BY TRANSURETHRAL RESECTION

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Among the complications which may follow surgical procedures to remove the rectum or sigmoid, none is more disturbing to the patient and to the surgeon than persistent urinary retention. The most common types of operations employed on this portion of the bowel are posterior resections or combined abdominoperineal resections (either one stage or two stage procedures). These operations are usually done for cancer which involves the rectum or sigmoid. The urologic problem involved after one of these operations has been performed is difficult. It consists chiefly in relieving the urinary retention and keeping the degree of urinary infection at a minimum.

The vesical dysfunction that may follow the operations mentioned in the preceding paragraph may express itself from a moderate difficulty of micturition with varying amounts of residual urine to complete inability of the patient to void, with total urinary retention. An attempt to explain the reason for this phenomenon has elicited much discussion. The most frequently accepted explanation has suggested operative injury to parasympathetic nerves which control the urinary bladder. However, studies with cystometrograms by Coller and Eastman [1] have failed to substantiate this hypothesis. Other explanations suggest edema of the prostatic or membranous urethra incident to the trauma of operation or decompensation of a previously compensated bladder embarrassed by some obstruction of the vesical neck. The weakening of the bladder has usually been ascribed to injury of nerves. Engel [2] has emphasized the fact that many of the male patients may have suffered from minimal degrees of prostatism for some time previous to operation. He has called attention to the fact that most of the male patients on whom this type of operation is performed are in the age of prostatism. It is also common knowledge that other events in the life of a patient suffering from prostatism, such as alcoholic or sexual excess, overeating, chilling or surgical operations the site of which is well removed from the vicinity of the bladder and the prostate gland, may serve to precipitate urinary retention.

Transient difficulties following operations well removed from the bladder or urethra are difficult to explain in the light of our present theories of the physiology of micturition. This is especially true when they occur in young patients who have no degree of obstruction of the vesical neck or the urethra. Persistent difficulty, however, that continues for weeks or months in older patients does not present a puzzling diagnostic or therapeutic problem if it is considered in its simplest elements.

The key to the solution of this distressing postoperative complication is found in the past ten years' experience with transurethral resection for urinary obstruction. Previous to the modern era of transurethral resection, large numbers of patients suffering from urinary retention (unassociated with any surgical operation) were dismissed with a diagnosis of "cord bladder" or "atypical cord bladder." The reason for this diagnosis was that no obstruction at the vesical neck could be seen on cystoscopy and no palpable enlargement of the prostate gland was apparent on digital rectal examination. As experience in the field of transurethral resection increased, it became possible to recognize minimal degrees of obstruction of the vesical neck which theretofore had been missed entirely. This has become so important that no experienced transurethral surgeon will now state that there is no obstruction at the vesical neck until resection has actually been attempted. It is common experience that, after two or three pieces of tissue have been removed from the anterior quadrant at the vesical neck, lateral lobe tissue near the apex of the prostate not previously apparent will "roll" toward the midline and appear very obstructive. Urinary retention of "obscure etiology" has therefore resolved itself not so much into a problem of determining the strength of the detrusor and of the means of improving its tone as into a simple problem of imbalance between the detrusor and the vesical neck.[3] No matter how weak the detrusor, if the vesical neck can be weakened sufficiently by transurethral resection the bladder should be able to empty completely. Applying these principles to patients suffering from urinary retention following operations on the rectum and sigmoid, this postoperative complication has ceased to be a problem of importance.

In our earlier experience we approached this problem rather cautiously, especially in cases in which there had been no previous history of urinary difficulty. As experience increased, however, it was realized that nearly all of these male patients, being in the age of prostatism, had some degree of obstruction of the vesical neck even though of a mild degree. We were also happily surprised to find that almost all could be relieved of their urinary retention immediately by transurethral resection. We are presenting here a study of these cases in which resection has been performed.

From the Section on Urology, Mayo Clinic.

1. Coller, F. A., and Eastman, P. F.: Urinary Retention Following the Combined Abdominoperineal Resection, Surgery **14**: 223-228 (Aug.) 1943.

2. Engel, W. J.: Bladder Neck Obstruction Associated with Carcinoma of the Rectum, S. Clin. North America **19**: 1195-1203 (Oct.) 1939.

3. Emmett, J. L.: Urinary Retention from Imbalance of Detrusor and Vesical Neck: Treatment by Transurethral Resection, J. Urol. **43**: 692-704 (May) 1940. Emmett, J. L., and Beare, J. B.: Bladder Difficulties of Tabetic Patients, with Special Reference to Treatment by Transurethral Resection, J. A. M. A. **117**: 1930-1934 (Dec. 6) 1941. Emmett, J. L.: Unrecognized Obstruction of the Vesical Neck, Surg., Gynec. & Obst. **75**: 669-670 (Nov.) 1942.

PRESENTATION OF STUDY OF CASES

In the group of cases presented here we have included those in which transurethral resection was done after removal of the rectum or sigmoid for carcinoma. We have excluded from this study cases in which urinary obstructive symptoms were prominent previous to the rectal operation and in which the necessity of transurethral resection was recognized but it was elected to proceed with the intestinal operation prior to operation on the prostate. In looking over our records of the past ten years we have found 33 cases which would meet the requirements, and they form the basis for this study. The types of major surgical procedures done on these patients are recorded in table 1. It will be noticed that most of these were either posterior resections or combined abdominoperineal resections. The site of the malignant growth varied from 2 to 12 cm. above the anal margin. The age of these patients (table 2) varied from 37 to 75 years, but the majority (29) were more than 50 years of age, while all but 1 were more than 40 years of age. It may be said, therefore, that practically all of the patients are in the age of prostatism.

TABLE 1.—*Type of Operation Performed*

Type	Operations
One stage abdominoperineal resection	17
Two stage abdominoperineal resection	4
Modified Harrison-Cripps (sacral colostomy)	1
Exteriorization operations (Mikuliez procedure)	4
Posterior resection (Lockhart-Mummery)	5
Segmental resection	2
Total operations	33

Preoperative Data.—In 24 of these cases no urinary symptoms of any kind were elicited in the history prior to the intestinal operation. In 6 there were symptoms which were so minimal that the question of obstruction of the vesical neck was not given consideration. In 3 cases the symptoms were a little more pronounced than in the other cases. In only 4 of the 33 cases did the symptoms seem to justify a determination of the residual urine. In 2 cases there was no residual urine and in the remaining 2 the amounts of residual urine found were 25 and 140 cc. respectively. Microscopic examination of centrifuged specimens of urine prior to the intestinal operation disclosed that in 30 cases the urine either was negative or contained less than 10 leukocytes per high power field. In 3 cases moderate amounts of pus were encountered. An examination of the records of these patients to determine how many had evidence of prostatic enlargement on digital rectal examination was somewhat disappointing. The reason for this, however, is that in many cases the rectal growth is of such size and in such a position that it makes accurate palpation of the prostate gland difficult or entirely impossible. In 18 of these 33 cases there was no preoperative description of the prostate by digital rectal examination. In 6 cases the prostate gland was reported to be normal in size and consistency, in 5 it was enlarged 1 (on a basis of 1 to 4, in which 1 designates the least and 4 the greatest enlargement) and in 3 it was enlarged 1 + while in 1 other it was described as enlarged 2.

TABLE 2.—*Age Distribution of Patients*

Age, Years	Patients
30 to 39	1
40 to 49	3
50 to 59	7
60 to 69	17
70 to 79	5
Total	33

Postoperative Data.—After the operation on the bowel, the urinary complications in these cases were quite similar. In all cases symptoms of urinary retention developed. Most patients were unable to void at all, while others were able to void small quantities of urine, but large quantities of residual urine persisted. Intermittent or indwelling catheterization was necessary in these cases, so that in nearly all pyuria developed in spite of urinary antiseptics. The most common organism found in the urine when cultured was Streptococcus facalis, which was present in pure culture in 13 cases and was associated with other organisms in 6 more.

In most of these cases conservative measures of various types were employed in an effort to stimulate the bladder. They included subcutaneous injections of the choline drugs such as methylol chloride and carbaminoylcholine chloride (doryl) and neostigmine (prostigmine) and lavage of the bladder with irritating solutions such as 1 per cent solution of mercurochrome and 1 : 750 gentian violet. None of these procedures proved effective in these cases. The time interval that elapsed between the intestinal operation and the transurethral resection is shown in table 3. It will be seen that nearly all of these patients were given a period of more than three weeks to allow the bladder to recover. Almost a third of the group were allowed to go more than two months, but most of these cases occurred during the earlier period when we were not so well acquainted with the possibilities of transurethral resection in such cases as we are now. We have now become so confident that most of these patients can be relieved in this manner that we do not advise waiting longer than three weeks, unless the patient's general condition is not satisfactory.

TABLE 3.—*Time Interval Between Intestinal Operation and Transurethral Resection*

Interval	Cases
15 to 21 days	3
22 to 28 days	12
29 to 35 days	2
36 to 42 days	3
43 days to 2 months	3
2 to 4 months	3
4 to 7 months	2
7 to 12 months	2
12 to 24 months	3
Total operations	33

TABLE 4.—*Weight of Prostatic Tissue Removed at Transurethral Resection*

Weight, Gm.	Cases
1 to 5	8
6 to 10	9
11 to 15	5
16 to 20	5
21 to 30	3
31 to 40	1
41 to 50	0
51 to 60	1
61 to 70	0
71 to 80	1
Total	33

The cystoscopic findings in these cases are interesting. In the majority the most prominent finding is a rather deep bas-fond with a "sagging" type of bladder which gives the appearance that the supporting struc-

tures in the region of the base of the bladder are gone. It has been our feeling that this lack of support, rather than the disturbance of the nerve supply of the bladder, is one of the greatest factors in the vesical atony. Another reason in favor of this hypothesis is that we have yet to encounter an "autonomous" type of bladder such as is seen in animals after experimental section of both pelvic nerves or in man after traumatic destruction of the sacral portion of the spinal cord or of the cauda equina. It seems improbable that in every case only the sensory fibers of the pelvic nerves should be disturbed with a resulting "atonic" bladder. The cystometric studies of Coller and Eastman [1] would also lend support to this reasoning.

An accurate cystoscopic evaluation of the vesical neck is extremely important, as herein lies the solution of the entire problem. In 17 of the 33 cases under discussion cystoscopy was performed prior to resection, while in 16 it was performed only at the time of resection. From the cystoscopist's description of the vesical neck one gains the impression that there was no visible evidence of obstruction in 13 cases, a minimal amount of obstruction in 16 cases and a moderate amount of obstruction in only 4 cases. In spite of the cystoscopic appearance of the vesical neck, transurethral resection was performed on all of these patients. The amount of prostatic tissue removed in each case is shown in table 4. It will be noticed that in 17, or half of the cases, less than 10 Gm. of tissue was removed, while in only 6 cases was it necessary to remove more than 20 Gm. It is interesting to try to correlate the amount of tissue removed with the preoperative cystoscopic description of the vesical neck. In 12 cases the cystoscopic findings and amount of tissue removed seemed to be proportional. In 3 cases the amount of tissue removed was less than one would have suspected from the cystoscopic description, while in 18 cases the amount of tissue removed at resection greatly exceeded the amount suggested to be present at cystoscopy. In 31 of the 33 cases microscopic examination of the tissue removed showed it to be benign adenofibromatous hyperplastic tissue. In 1 case the bulk of the tissue was benign with one small region of adenocarcinoma. In another case the tissue proved to be secondary extension from the carcinoma of the bowel.

Results.—The results of transurethral resection in these cases have been exceptionally good. In 30 cases they are regarded as excellent, which means that normal vesical function returned and the residual urine was completely eliminated. In 1 case the result has been fair. This patient was 51 years of age. His difficulty following the intestinal operation consisted of nocturnal enuresis and residual urine of 50 cc. His residual urine was eliminated by transurethral resection, but the nocturnal enuresis continues. It seems quite possible that there may be some impairment of the nerve supply of the bladder or urethral sphincter in this case. In 2 cases the results were poor. One patient was a man aged 69 who had an extension of the cancer to involve the seminal vesicles. He died from metastasis seven and a half months after resection. The other patient was a man aged 37. Little if any tissue could be removed (a total of 2 Gm.). No patients died after operation.

COMMENT

It is our opinion that the problem of urinary retention in the male patient after operations on the rectum and sigmoid is not as complex as has been heretofore supposed. Reduced to its basic components it may be stated simply. Most patients subjected to this type of operation are in the age of prostatism. It has been recognized for years that many factors, such as chilling, alcoholic or sexual excess, overeating or surgical operations on other parts of the body, will precipitate urinary retention in such cases. Trauma to the prostate and urethra plus the removal of the supporting structures around the base of the bladder (such as occurs after posterior resection or combined abdominoperineal resection) furnishes an ideal situation for the bladder to "decompensate" and become unable to expel urine through a moderately obstructed vesical neck. Instead of attempting to increase the vesical tone (which is impossible to do by any means available at present) the rational procedure is to weaken the vesical neck and obviate the imbalance that exists between the detrusor and the vesical neck. This can be easily accomplished by transurethral prostatic resection and will completely and quickly relieve nearly all patients suffering from this annoying condition. To avoid unnecessary operations it is probably best to allow the patient a period of at least three weeks after the intestinal operation to regain his vesical function before one advises transurethral resection.

ORNITHOSIS AS A CAUSE OF SPORADIC ATYPICAL PNEUMONIA

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With the increasing incidence of primary atypical pneumonia in recent years it has become desirable to establish an etiologic diagnosis whenever possible. It is only during the past decade that this disease has come to be recognized as a definite clinical entity. Numerous reports concerning this condition are to be found in the current literature, most of which have come out of military establishments. Owen [1] reviewed the literature concerning primary atypical pneumonia and noted that over 1,750 cases had been reported from military posts since 1935. To these he added another 738 cases occurring at Scott Field during 1942. He also was able to find over 1,100 cases originating from civilian sources. It is significant that most of the reports available are concerned with epidemic outbreaks of the disease showing seasonal variations, being most frequent in the spring and late fall.

Atypical pneumonia occurs in a sporadic form as well as in an epidemic one. In both forms attempts to isolate an etiologic agent with ordinary laboratory procedures are usually unsuccessful. During the past two years we have observed 6 sporadic cases of atypical pneumonia occurring in the Philadelphia area in which we were able to confirm the diagnosis of ornithosis by means of the complement fixation test. During this period we observed a fair number of cases of atypical

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Dr. K. F. Meyer of the University of California made it possible for the complement fixation studies to be performed.
1. Owen, C. A.: Primary Atypical Pneumonia, Arch. Int. Med. **73**: 217 (March) 1944.

pneumonia. Unfortunately, it was possible to perform the complement fixation test for ornithosis in only a limited number of cases in which the diagnosis was suspected by reason of a history of contact with pigeons or through the nature of the clinical course.

In 1941 Meyer [2] first reported the isolation of a virus similar to that of psittacosis from the lung of a patient who had a history of exposure to a flock of racing pigeons. Of 33 pigeons in the flock, 19, or 63 per cent, were found to have a positive complement fixation titer in their serums, and in 4 pigeons a virus which was indistinguishable from that of the patient was isolated. About this time Meyer and his co-workers [3] suggested that the term psittacosis be reserved for those cases of human infection occurring after contact with psittacine birds such as parrots, parakeets, lovebirds and canaries and that the term ornithosis be applied to infections following exposure to doves, pigeons, chickens and the like.

Late in the nineteenth century Ritter [4] in Switzerland first described psittacosis as a pneumonic infection occurring after contact with tropical birds. Since that time the disease has become increasingly recognized and sporadic outbreaks have been reported in various countries. Human infection has been traced to parrots, parakeets, finches, arctic fulmar, doves and chickens, and in 1941 Meyer first incriminated the pigeon. In 1942 he reported that 10 cases of human atypical pneumonia with two deaths could be traced to exposure to different species of pigeons, these cases being distributed among several states. Favour [5] in 1943 reported 3 cases of ornithosis confirmed by means of the complement fixation test. A history of contact with pigeons was obtained in 1 case, a sick canary in the second, and there was no history of any direct contact in the third. Smadel [6] in 1943 studied 45 cases of sporadic atypical pneumonia occurring among large eastern urban populations. In these cases he was able to make a definite diagnosis in 10 instances by means of the complement fixation test. Six of these gave a history of contact with or proximity to pigeons. Smadel reached the conclusion that approximately one fourth of the sporadic cases of atypical pneumonia are due to infection by the virus of psittacosis (ornithosis). Recently Meikeljohn, Beck and Eaton [7] reported 10 cases of ornithosis which they had collected over a four year period. In all these cases the diagnosis was confirmed by isolation of the virus and through serologic means. Four of their cases were naturally occurring with a history of pigeon contact, 3 were in nurses who had contracted the disease from infected patients, and the last 3 were laboratory infections. Four of these cases were very severe and had a fatal termination.

CLINICAL FEATURES OF ORNITHOSIS

Method of Transmission.—It is believed that infections in human beings usually originate from contact with material containing the virus which has been excreted by an infected bird. The port of entry is thought to be the respiratory tract. Although in most cases which have been heretofore reported there is usually a history of direct contact with infected birds, it is significant that infected droppings may be blown about by air currents as dust. In this manner it is possible to produce human infection without direct contact and theoretically at sites remote from the home of the infected bird. It is our belief that the latter form of infection, in which there is no history of actual contact, may be responsible for some sporadic cases of endemic atypical pneumonia which pass unrecognized. Transmission of the disease from one human being to another has been known to occur. Meikeljohn and his collaborators [7] observed that in 5 cases of psittacosis 3 occurred in nurses who acquired the infection from the 2 original patients.

Incubation Period.—The time interval between exposure and the onset of the acute illness is usually given as eight to fourteen days. Unfortunately, in many of the cases it is impossible to determine the incubation period as there is often no history of contact; or, on the other hand, in the case of pigeon fanciers the patient has been in daily contact with the birds for a considerable period of time.

Symptomatology.—In most cases the onset is abrupt, with a rapid rise in temperature to 103 to 105 F. The findings have been described as being characteristic of the typhoidal state. The complaints are not dissimilar to those seen in any acute infection, namely malaise, anorexia, backache, headache and muscle pains. Usually there is no shaking chill, but chilliness is very common. Headache is apt to be most distressing, at first being occipital in nature and later frontal. This is apt to be one of the most prominent features of the disease. Cough in most cases is nonproductive, but a few patients will bring up copious amounts of a thick tenacious whitish sputum. Pleuritic pain is usually absent. Perspiration is often quite profuse. Gastrointestinal symptoms, nausea and vomiting are often present early in the disease. Epistaxis is believed to occur in about 25 per cent of the cases.

Physical Findings.—The temperature usually runs between 102 and 105 F. and fluctuates from day to day. The pulse rate varies between 80 and 100, the increase being not at all in proportion to the rise in temperature. Actually there is a relative bradycardia. Respirations are usually normal or only slightly increased in rate. In a number of cases rose spots have been described.

Physical examination of the chest may result in any one of a number of findings. There may be no physical findings present at all, the x-rays being necessary to establish a diagnosis and usually revealing a small hilar or central pneumonic consolidation. Or there may be fine crepitant rales over the involved area with slight to moderate impairment of the percussion note. Finally there may be signs of frank consolidation. Usually the extent of pneumonic involvement will tend to parallel the severity of the infection, although this is not always the case. It is characteristic also that the physical findings will tend to migrate from time to time, traveling from one lobe to another.

Laboratory Data.—The white blood cell count is normal or slightly elevated at the onset, with a tendency to develop a leukopenia later on in the disease. No characteristic change in the differential count has been observed. The sedimentation rate is elevated and tends to rise during the course of the disease. Sputum examination and culture reveal no organisms other than

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3. Meyer, K. F.; Eddie, B., and Yanamura, H. Y.: Ornithosis in Pigeons and Its Relation to Human Pneumonitis, Proc. Soc. Exper. Biol. & Med. **49**: 609 (April) 1942.
4. Ritter, J.: Beitrag zur Frage des Pneumotyphus, Deutsches Arch. f. klin. Med. **25**: 53, 1879-1880.
5. Favour, C. B.: Ornithosis, Am. J. M. Sc. **205**: 162 (Feb.) 1943.
6. Smadel, J. E.: Atypical Pneumonia and Psittacosis, J. Clin. Investigation **22**: 57 (Jan.) 1943.
7. Meikeljohn, G.; Beck, M. D., and Eaton, M. D.: Atypical Pneumonia Caused by Psittacosis-like Viruses, J. Clin. Investigation **23**: 167 (March) 1944.

those normally present in the pharynx. Blood cultures likewise are negative.

X-Ray Appearance.—This varies considerably in some cases, depending on the severity and duration of the disease. Early there may be only an increase in one or both hilar shadows, the disease never progressing beyond this stage in many mild and moderately ill patients. On the other hand, the shadow may extend to become an extensive mottled patchy lesion involving one or more lobes. Finally, in many cases of severe illness there may be frank pneumonic consolidation. Serial roentgenograms will often establish the fact that the disease tends to be migratory in nature, jumping from one lobe to another or from the hilar area of the lung out into the periphery, advancing in one area while receding in another. Like the physical findings, the x-ray appearance frequently parallels the severity of the infection.

Course of the Disease.—The duration of the febrile period varies from one to five weeks. The mild cases in which the illness does not appear acute usually last from one to two weeks. Those who are moderately and severely ill frequently have an illness lasting from two to five weeks. The temperature ranges between 101 and 105 F., varying from day to day. It is not uncommon for the temperature to return to normal for a day or two, only to relapse again. In addition to the two clinical types just described it is necessary to mention the very severe form, which is so often fatal. The febrile course in the severe type varies, ranging from one to five weeks, accompanied often by cyanosis and toxic cerebral symptoms in addition to the other features of the disease heretofore described. The mortality of this disease has been reported as high as 35 to 45 per cent. Apparently most of the cases which have been recognized have occurred in the group with severe infections in which one would expect a correspondingly high mortality. Also the severe type is usually seen in the older age group, who frequently have complicating chronic illnesses which cloud the picture.

Diagnosis.—In addition to the history and clinical picture there are laboratory aids which are of value in confirming the diagnosis. Foremost of these is the isolation of the virus from the sputum of the patient. The sputum is most likely to yield the virus while the disease is still active. Isolation of the virus is accomplished in the following manner: At first a suspension of the infected material is inoculated intranasally into mice. After a period of four to eight days the mice are killed and their lungs examined for areas of consolidation. Finally, suspensions of the lungs of these mice are inoculated intracerebrally, intranasally and intraperitoneally into three groups of mice. Smears of the lungs and brains of mice dying in this group are examined for elementary bodies. It is also possible to isolate the virus from the livers and spleens of infected animals.

The blood is known to contain the virus until the fourth to the tenth day of illness, and it is possible to isolate the virus from it as well as from the sputum. The complement fixation test using an antigen prepared from the virus has been of inestimable value in early diagnosis of the disease. In many cases it is impossible to obtain any sputum and because of this the complement fixation test has been the means of confirming the diagnosis by most clinicians. This test is reliable, provided the patient has not been infected with the virus of lymphogranuloma venereum. Rake, Eaton and Shaffer [8] have shown that the viruses of lymphogranuloma venereum and meningopneumonitis psittacosis are antigenically related and that the serums of patients with lymphogranuloma venereum will fix complement with the psittacosis antigen.

Treatment.—Until the present time there has been no specific treatment for ornithosis or psittacosis. Chemotherapeutic agents, specifically the sulfonamides, have had no influence on the course of the disease. This is likewise true in other cases of atypical pneumonia. Recent experimental evidence by Heilman and Herrell [9] of the Mayo Clinic suggests that penicillin may prove to be of value in the therapy of ornithosis. These investigators inoculated 80 mice with the virus of ornithosis. They report that of 40 mice that were untreated 35 died, a mortality of 88 per cent. Of the 40 mice treated with penicillin only 2 died, a mortality of only 5 per cent. As this infection in human beings is not infrequently severe and often fatal, it is desirable that further work be done along these lines and that penicillin be given a fair trial in human infections of the virus of ornithosis. To meet this end it is desirable, and in fact necessary, that the diagnosis of ornithosis be established as soon as possible. Since the psittacosis antigen for complement fixation studies is not available commercially, it might be practical, in view of the cross reaction between the psittacosis virus and that of lymphogranuloma venereum, to employ the antigen prepared from the virus of lymphogranuloma venereum.

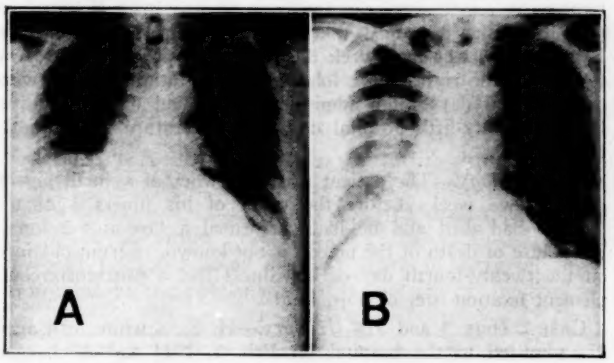

Fig 1.—Case 1, *A*, tenth day and *B*, twenty-first day of illness.

REPORT OF CASES

The following six sporadic cases of ornithosis were observed in the Philadelphia area during the past two years. In all 6 the diagnosis was confirmed by significant titers in the complement fixation test, which was possible only through the courtesy of Dr. K. F. Meyer of the George Williams Hooper Foundation at the University of California.

CASE 1 (figs. 1, 2 and 3).—*History.*—F. R., a white man aged 55, who was admitted to the hospital on Jan. 1, 1944 and discharged on February 10, first noticed the onset of general malaise and sore throat seventeen days prior to admission. Nine days before admission he had an abrupt onset of chills, fever, frontal headache, cough, nausea and vomiting, which persisted until entry into the hospital. Sulfadiazine had had no influence on the fever. On admission the patient perspired profusely and looked acutely ill. The temperature was 100.4 F., the pulse rate 78 and the respiratory rate 20. Examination of the chest

8. Rake, G.; Eaton, M. D., and Shaffer, M. F.: Similarity and Possible Relationship Among Viruses of Meningopneumonitis, Lymphogranuloma Venereum and Psittacosis, Proc. Soc. Exper. Biol. & Med. **48**: 528 (Nov.) 1941.

9. Heilman, F. R., and Herrell, W. E.: Penicillin in the Treatment of Experimental Ornithosis, Proc. Staff Meet., Mayo Clin. **19**: 57 (Feb. 9) 1944.

showed dulness, increased tactile fremitus and medium moist rales over the right lower lobe.

Laboratory Data.—White blood cells numbered 12,000, polymorphonuclears 82 per cent, lymphocytes 18 per cent. Blood and sputum cultures were negative. X-ray examination revealed a pneumonic consolidation involving the posterior portion of the right lower lobe.

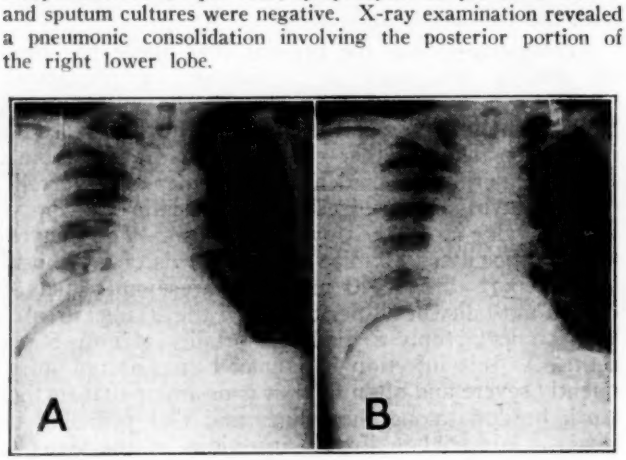

Fig. 2.—Case 1, *A*, twenty-sixth day and *B*, thirty-eighth day of illness (afebrile three days).

Course.—Fever persisted twenty-four days with daily fluctuations in temperature ranging from 98.5 to 103.2 F. Profuse perspiration accompanied the daily elevations in temperature. By the end of the first week the pneumonic process had spread to involve the right upper lobe. Cold agglutinin studies were done several days after admission and found to be negative. On the twenty-fifth hospital day the temperature fell abruptly to normal.

Epidemiology.—The patient was the owner of a small pigeon flock. Two weeks before the onset of his illness 1 of the pigeons had died and he had performed a layman's autopsy. The cause of death of the pigeon is not known. Serum obtained on the twenty-fourth day of his illness had a psittacosis complement fixation titer of 4 +, 1 : 512.

Case 2 (figs. 4 and 5).—*History.*—H. S., a white man aged 47, admitted to the hospital on Feb. 2, 1944 and discharged on March 9, had a sudden onset of chills, fever, aching pain in the chest and a nonproductive cough one week before admission, all of which had persisted. The past history showed typhoid in 1913. On admission the patient did not look acutely or chronically ill. The temperature was 103.4 F., pulse rate 98, respiratory rate 28. Blood pressure was 138/90. Examination of the chest was negative except for a few crepitant rales heard posteriorly over the right lower lobe. There were no changes on percussion or tactile fremitus.

Laboratory Data.—White blood cells numbered 7,300, polymorphonuclears 81 per cent, lymphocytes 19 per cent. Blood culture was negative. X-ray examination of the chest showed a small area of hilar consolidation present in the right cardiophrenic angle.

Course.—Fever persisted for fourteen days, fluctuating between 101 and 104.4 F. daily. On the fourteenth day the temperature began to fall by lysis and was normal on the nineteenth hospital day. Sulfamerazine was used with no effect. Physical examination of the chest after admission was always negative. On the fourth hospital day cold agglutinins were done and found to be negative.

Epidemiology.—There was no history of direct pigeon contact in this case. However, there is quite a large flock of pigeons in the neighborhood surrounding his home and he states that the birds frequently rest on his window sills. Serum obtained on the fourth hospital day had a psittacosis complement fixation titer of 4 +, 1 : 128.

Case 3.—*History.*—M. A., a white man aged 40, was admitted to the hospital on March 13, 1942 complaining of fever, chills, malaise, excruciating frontal headache, joint pains and cough of five days' duration. On admission the patient looked acutely ill. The temperature was 103.6 F., pulse rate 100, respiratory rate 24. Blood pressure was 110/80. Examination of the chest showed slight dulness and diminution of breath sounds over the right lower lobe. No rales were present. There was also some tenderness over the right upper rectus muscle.

Laboratory Data.—White blood cells numbered 4,600, polymorphonuclears 78 per cent, lymphocytes 22 per cent. Blood culture was negative. X-ray examination of the chest showed fine, soft, diffuse mottling throughout both lung fields, with a slight increase in the size and density of both hilar shadows.

Course.—Fever persisted for seven days, fluctuating daily between 101 and 105 F. After four days sulfathiazole was discontinued because of a drug rash. On the seventh day the temperature fell abruptly to normal, where it remained. Severe frontal headache was the most prominent feature of the patient's hospital stay.

Epidemiology.—This patient had played with a pair of love birds three days before admission, but at that time he had already been sick with fever for two days. It was discovered that the patient's home adjoined a large park which contained many pigeons and that many of these birds nest on his home. However, he had not fed or handled any birds. Serum taken from the patient on April 29 had a psittacosis complement fixation titer of 4 +, 1 : 64.

Case 4.—*History.*—G. P., a white woman aged 25, a housewife, was admitted to the hospital on July 20, 1942 complaining of chills, fever, malaise and cough of three days' duration. On admission the patient was not acutely ill but complained of a distressing cough. The temperature was 103.3 F., pulse rate 104, respiratory rate 24. Blood pressure was 105/65. Physical examination of the chest was not remarkable outside of some dulness and diminished tactile fremitus over the right scapular region. No rales were present.

Laboratory Data.—White blood cells numbered 6,800, polymorphonuclears 83 per cent, lymphocytes 17 per cent. Blood culture was negative. X-ray examination of the chest showed mottled clouding and peribronchial infiltration extending downward and laterally from the right hilus to the periphery in the right middle and lower lobes.

Course.—Fever persisted eighteen days, fluctuating daily between 100 and 103 F. Sulfadiazine was given for four days

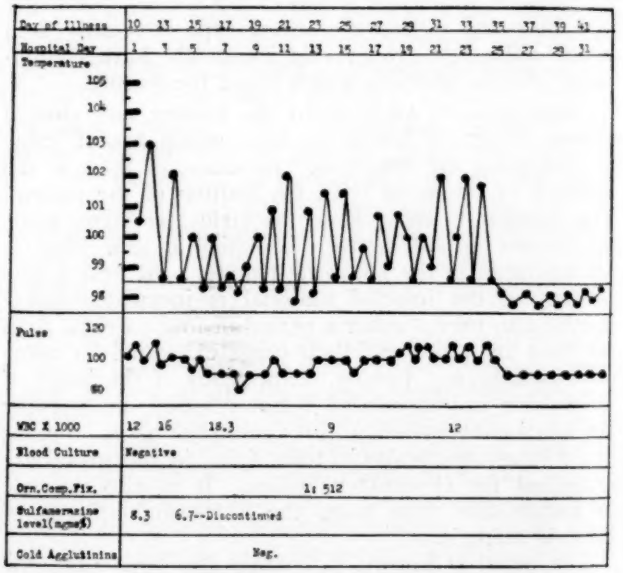

Fig. 3.—Course in case 1.

and stopped when there was no response. Several small transfusions seemed to have a beneficial effect. On the fourteenth day of illness the temperature began to fall by lysis, and it was normal on the eighteenth hospital day.

Epidemiology.—This patient denied any direct contact with birds. However, she stated that pigeons continually roost on her window sills, but she denied having handled or fed them. Serum taken from the patient had a diagnostic titer in the psittacosis complement fixation test of 4 +, 1 : 16.

CASE 5.—*History.*—D. A., a white woman aged 44, was admitted to the hospital on Aug. 8, 1942 complaining of chills, fever, headache and profuse perspiration of twelve days' duration. Sulfonamide therapy had had no effect on the illness. On admission the patient looked acutely ill and was complaining chiefly of severe frontal headache. Examination of the chest showed only a few fine crepitant rales at the left base.

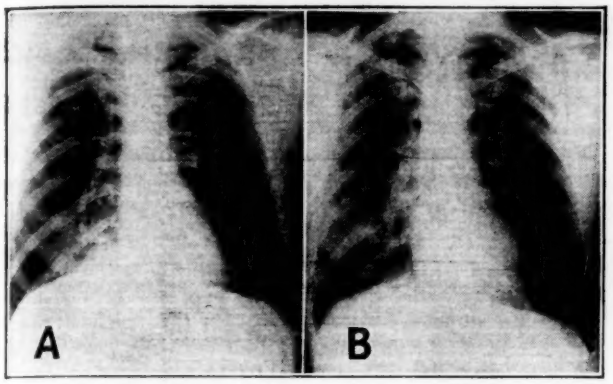

Fig. 4.—Case 2, *A*, eighth day of illness, *B*, eighteenth day of illness.

Laboratory Data.—White blood cells numbered 11,000, polymorphonuclears 75 per cent, lymphocytes 23 per cent, eosinophils 2 per cent. Blood culture was negative. X-ray examination of the chest showed accentuation and feathering of the bronchovascular markings, extending particularly into the lower lobes of both lungs, with similar but less definite changes in the upper lobe.

Course.—Fever persisted for sixteen days, with daily fluctuation from 100 to 102 F. On the sixteenth hospital day the temperature fell abruptly to normal. There was no response to sulfathiazole.

Epidemiology.—No history of contact with pigeons or birds of any kind could be obtained. The patient, however, lived within several blocks of patient 3 and likewise had many pigeons about the roof and premises. Serum taken from the patient had a diagnostic titer of 4 +, 1 : 128, in the psittacosis complement fixation test.

CASE 6.—*History.*—G. P., a white man aged 68, noticed the abrupt onset of chills, fever, severe frontal headache, nausea and vomiting about Nov. 1, 1943. Despite this he continued working and one week later collapsed, became delirious and was put to bed. On examination he appeared acutely ill. The temperature was 104 F., pulse rate 90, respiratory rate 24. Examination of the chest revealed slight dulness and fine crepitant rales at the right base. On the seventh day the temperature began gradually to fall by lysis and reached normal by the thirteenth day of illness. He was extremely toxic and acutely ill throughout the extent of his illness.

Epidemiology.—The patient keeps a flock of about 300 pigeons and is in daily contact with them. The complement fixation reaction for psittacosis was 4 +, 1 : 16.

COMMENT

It is perhaps worthy of note that in 4 of the 6 cases observed there was no history of direct contact with pigeons or any other birds. However, in all 4 cases there were pigeon flocks in the immediate vicinities of their homes. This is not at all unusual, as it is known that infection may take place through the inhalation of infected droppings blown about as dust. Because of the large potential reservoir of infection present in the many pigeon flocks throughout the country, it is important that the extent of ornithosis among pigeons be determined. Meyer and his collaborators [3] made a survey of pigeon lofts in various areas throughout the country and found that a very high percentage of the flocks studied had significant titers in the psittacosis complement fixation test. Meyer states that 40 to 50 per cent infection of pigeons with ornithosis is of universal occurrence. Hoping to obtain further information on the extent of infection among pigeon flocks in this area, we captured 14 pigeons with the cooperation of the Philadelphia Department of Health. Examination of their serums revealed diagnostic complement fixation titers in 6 pigeons, 42 per cent of the number examined. However, a positive complement fixation titer does not necessarily mean active infection but may mean latent, inactive or subclinical infection. Also birds with negative titers may harbor the active virus in their livers or spleens.

The mortality of psittacosis has been reported as high as 40 per cent. Meikeljohn, Beck and Eaton [7] reported a fatal outcome in 4 of 10 cases. They also noticed a high degree of secondary infection in that 3 nurses who attended the original 2 patients contracted the infection. We have observed no such secondary infection. It is likely that a mortality of 40 per cent is too high for ornithosis and that attention is focused on those cases in which the illness is very severe or prolonged and that perhaps many milder cases of shorter duration pass by unnoticed.

In February 1943 Peterson, Ham and Finland [10] observed the presence of a reversible cold autohemagglutinin occurring in 2 patients who developed acute hemolytic anemia during the course of an atypical pneumonia. Further study showed that cold agglutinins were present in significant titers in most cases of atypical pneumonia. The titers obtained ranged from 1 : 10 to 1 : 10,000. A review of the literature indicated that cold agglutinins are rarely if ever present in bacterial pneumonias. The suggestion was proposed that this test might be of value in confirming the diagnosis of an atypical pneumonia as distinct from a bacterial pneumonia, as at the present time the nature of the etiologic

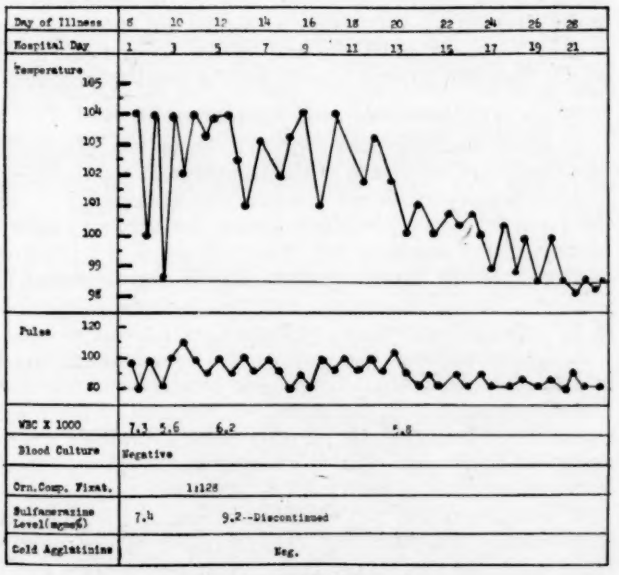

Fig. 5.—Course in case 2.

agent of the atypical pneumonia in most cases has not been definitely established. Meikeljohn [11] confirmed the observations of Finland and his co-workers. The observation was made that the rise in titer of cold agglutinins begins on the eighth to the tenth day, reaches

10. Peterson, O. L.; Ham, T. H., and Finland, M.: Cold Agglutinins in Primary Atypical Pneumonias, Science **97:** 167 (Feb. 12) 1943.
11. Meikeljohn, G.: The Cold Agglutinin Test in the Diagnosis of Primary Atypical Pneumonia, Proc. Soc. Exper. Biol. & Med. **54:** 181 (Nov.) 1943.

a peak anywhere from the twelfth to the twenty-fifth day and falls off rapidly after the thirtieth day. During the past several months cold agglutinins have been investigated at the Abington Memorial Hospital.[12] The results in 40 cases of pneumonia, 20 being atypical and 20 bacterial (chiefly pneumococcic), are summarized in the accompanying table.

Among the bacterial pneumonias cold agglutinins were significantly absent and only 1 case had a questionable titer of 1:20. In the group of atypical pneumonias cold agglutinins were absent in 3 cases and present in significant titers in the remainder. Two of the 3 negative cases in the atypical group were cases of ornithosis which have been reported in this article. Cold agglutinins in these cases were determined on the twentieth and fifteenth days of their febrile periods when the cold agglutinins, if present, should have been at the peak of their titer. Meikeljohn [11] observed 2 cases of psittacosis in which cold agglutinins were performed. In 1 the titer was less than 10 and, in the other, titers of 10, 10, 20 and 10 were present on the sixth, tenth, fifteenth and thirtieth days of the disease respectively. They considered values of 20 and over as probably being significant. Whether or not these values of cold agglutinins in psittacosis will have any significance must await further studies along these lines. The value of cold agglutinins is as a means of confirming the diagnosis of an atypical pneumonia till the etiologic agent can be better identified. Its use is limited as an early diagnostic aid, since a significant titer is not usually obtained until the end of the second week, at which time the patient is well on the road to recovery.

Cold Agglutinins in Atypical Pneumonia
(A. M. H.)

Dilution	<10	10	20	40	80	160	320	640	2,180	2,500
Atypical pneumonias	3	0	3	8	4	2	0	0	0	0
Bacterial pneumonias (pneumococcus)	20	0	1(?)	0	0	0	0	0	0	0

SUMMARY AND CONCLUSIONS

1. In 6 sporadic cases of ornithosis the diagnosis was confirmed by means of the complement fixation test.

2. A history of direct contact was obtained in 2 of the reported cases. In the others there was no history of any direct contact, but daily exposure to pigeons occurred in the immediate vicinity of the homes. It is known that infection may occur through the inhalation of the infected excreta of pigeons blown about as dust.

3. Examination of the serums of 14 pigeons captured in Philadelphia showed diagnostic complement fixation titers to ornithosis in 6 pigeons, 42 per cent of the total examined. Infection of pigeons with ornithosis averaging 40 to 50 per cent is thought to be of universal occurrence.

4. The absence of any fatalities among the 6 reported cases clouds the fact that the mortality is frequently reported as high as 40 per cent. Apparently many mild cases pass unrecognized.

5. Observations were made on the presence of cold agglutinins in atypical pneumonia. Two cases of ornithosis were examined for cold agglutinins and both found to be negative. The significance of this awaits further study.

6. Recent experimental work by Heilman and Herrell [9] of the Mayo Clinic suggests that penicillin may prove of value in the treatment of ornithosis.

7. In view of the high percentage of infection among the pigeon population in the United States, and since countless individuals are daily exposed to this potential reservoir of infection, it is probable that the virus of ornithosis may be responsible for many sporadic cases of primary atypical pneumonia which pass unrecognized.

12. Fowler, R. H.: Personal communication to the authors, 1944.

Clinical Notes, Suggestions and New Instruments

THE USE OF THEOPHYLLINE ETHYLENEDIAMINE (AMINOPHYLLINE) FOR THE RELIEF OF BILIARY COLIC: A PRELIMINARY REPORT

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BURLINGTON, VT.

Our purpose in this communication is to call attention to the use of theophylline ethylenediamine for the relief of biliary colic. For many years it has been known that the xanthines are capable of relaxing certain smooth muscles. Thus, theophylline has been employed for symptomatic relief of patients with angina pectoris and bronchial asthma.[1] The antispasmodic action of theophylline, however, is not manifested to any great extent on the gastrointestinal tract. Nevertheless, it has been shown by Butsch, McGowan and Walters [2] that theophylline ethylenediamine is effective in overcoming spasm of the biliary tract produced in man by the injection of morphine, dihydromorphinone hydrochloride (dilaudid) or codeine. It is well known that the phenanthrene alkaloids of opium produce spasm of smooth muscles of hollow viscera. Morphine relieves pain due to such spasm only by virtue of its analgesic action on the central nervous system. Locally, the mechanism for the production of pain is augmented. Butsch and his associates [2] obtained kymographic tracings in man by means of a water manometer connected to a T tube inserted into the common bile duct for prolonged biliary drainage after exploratory operation. The subcutaneous injection of morphine, dihydromorphinone hydrochloride or codeine in the usual therapeutic doses quickly caused an increase in intrabiliary pressure which persisted for two hours or more and which was at times associated with typical biliary colic. Atropine and papaverine were not effective in relieving this morphine induced spasm of the biliary tract. In contrast, amyl nitrite by inhalation and glyceryl trinitrate sublingually decreased the elevated intrabiliary pressure and concomitantly relieved pain. Theophylline ethylenediamine (0.24 Gm.) given intravenously rapidly lowered intrabiliary pressure to normal, although the relaxation was temporary, owing to the continued action of morphine. It occurred to us, therefore, that theophylline ethylenediamine might be a useful therapeutic agent for the symptomatic relief of biliary colic. Indeed, this suggestion has previously been recorded by one of us.[1]

We have thus far had occasion to observe the effects of theophylline ethylenediamine injected intravenously in 8 cases of acute biliary colic. Pain was usually promptly relieved. No untoward effects were observed. A brief presentation of representative cases follows:

Mrs. L. G., aged 35, experienced indigestion and upper abdominal discomfort during pregnancy in March 1942. Cholecystography in March 1944 revealed poor function and multiple small calculi. In May 1944 there occurred an acute attack of right upper quadrant abdominal pain, which began suddenly and became progressively worse. Theophylline ethylenediamine (0.5 Gm. in 20 cc. of aqueous solution) was injected intravenously over a period of four minutes. Relief from pain occurred before injection was completed. No untoward effects were experienced.

From the Departments of Surgery and Pharmacology, University of Vermont College of Medicine.

1. Goodman, L., and Gilman, A.: The Pharmacological Basis of Therapeutics, New York, Macmillan Company, 1941, pp. 274-285.

2. Butsch, W. L.; McGowan, J. M., and Walters, W. W.: Clinical Studies on the Influence of Certain Drugs in Relation to Biliary Pain and to the Variations in Intrabiliary Pressure, Surg., Gynec. & Obst. **63**: 451-456 (Oct.) 1936. Walters, W.; McGowan, J. M.; Butsch, W. L., and Knepper, P. A.: Pathological Physiology of Common Bile Duct: Its Relation to Biliary Colic, J. A. M. A. **109**: 1591-1597 (Nov. 13) 1937.

Mrs. J. L., aged 25, an obese mother of 4 children, had clinical evidence of gallbladder disease since her second pregnancy, four years before. In the second month of her fifth pregnancy there occurred an attack of fairly severe right subcostal pain, which was somewhat intermittent in character. The family physician had given medication orally four hours before without relief. Theophylline ethylenediamine (0.5 Gm.) was injected slowly intravenously. The patient quickly experienced almost complete relief and slept fairly well during the night but still had some slight, dull aching discomfort in the upper abdomen the next morning. No untoward effects were observed.

Mrs. O. W., aged 51, had two previous hospital admissions for upper abdominal pain and a diagnosis of cholelithiasis was made. In March 1944 she was admitted with severe abdominal pain, referred to the right shoulder and back and aggravated by breathing. The abdomen was considerably distended. She had had two injections of morphine without relief. Theophylline ethylenediamine (0.5 Gm.) was injected very slowly intravenously. The patient, who was highly nervous, began to complain of "heart pounding." The blood pressure, which was 104/74 before injection, was 118/74 two minutes after injection. The pulse rate increased from 84 to 100 per minute. The cardiac rhythm was normal. Fifteen minutes after injection the patient admitted complete relief of abdominal pain.

Mrs. I. G., aged 35, had a cholecystectomy performed in December 1942 for acute cholecystitis. The common duct was not explored. In March 1944 she experienced very severe colicky pain in the right upper abdominal quadrant. Morphine, atropine and phenobarbital were administered by her physician over a period of twenty-four hours with little relief. On admission to the hospital her pain was severe. The icterus index was 35. She was given 0.5 Gm. of theophylline ethylenediamine very slowly intravenously. During the injection a sensation of warmth accompanied by slight transitory nausea was experienced. No other untoward effects were noted. Almost immediately after completion of the injection the pain was altered in character and was entirely relieved in ten minutes. Sleep was possible for the first time in many hours. Six weeks later the patient complained of a dull, less severe pain in the same region and feared a recurrence of the severe pain. Only 0.25 Gm. of theophylline ethylenediamine was given on this occasion. Complete relief again occurred in eight to ten minutes.

As a result of the experience recorded, it was thought that the use of theophylline might be helpful in obtaining specimens of gallbladder bile during duodenal intubation. The following case illustrates such a use:

Mrs. H. O., aged 45, with a chief complaint of chronic indigestion, was having a duodenal intubation for the purpose of obtaining specimens of gallbladder bile. None was obtained by the usual methods (instillation of magnesium sulfate solution, olive oil, peptone). Theophylline ethylenediamine (0.5 Gm.) was injected slowly intravenously. Immediately after completion of the injection an active flow of dark, concentrated bile was obtained. No untoward effects were experienced.

COMMENT

The use of theophylline ethylenediamine intravenously is not new, and physicians employing it for patients with bronchial asthma, paroxysmal nocturnal dyspnea, Cheyne-Stokes respiration and so on are well acquainted with the technic and necessary precautions for its intravenous use. The most important precaution is that the injection be made slowly in order to prevent the fall in blood pressure which may occur on rapid intravenous administration of xanthines.[3]

A fairly diligent search of the literature has yielded but scant reference to the clinical use of theophylline in biliary colic. Means and Delor[4] record having had "excellent results with 4 grains of aminophyllin intravenously or the inhalation of a perl of amyl nitrite," but no details are given. They also mention the successful oral use of aminophylline (0.1 Gm.) and theobromine with sodium salicylate (0.5 Gm.) four to six times daily. Means and Delor refer to the use by Musser of theophylline ethylenediamine in a series of cases without side effects, but no reference is given and we have been unable to locate it.

Our experience would seem to warrant further clinical trial of theophylline as an antispasmodic for the biliary tract. The choice of drugs for this purpose is limited. Atropine and papaverine are usually not effective. The nitrites may provide some measure of relief, and occasionally the response to glyceryl trinitrate is dramatic. The synthetic atropine substitutes may at times be useful and have a more selective action than atropine. Morphine, the traditional drug employed in acute biliary colic, may fail to relieve pain and in certain cases may aggravate the pain. This also holds true for codeine and dihydromorphinone hydrochloride. As stated, morphine and its congeners actually increase the degree of smooth muscle spasm and thus augment the mechanism for production of pain. If relief occurs, it is due entirely to a central analgesic action of morphine. Isonipecaine should prove more valuable than morphine for symptomatic therapy of pain due to smooth muscle spasm because it not only is a potent central analgesic but also has a local antispasmodic action.

Theophylline ethylenediamine has given relief to patients on whom morphine was without effect. Its action is usually prompt, and the full measure of relief to be expected occurs in two to twenty minutes. There would appear to be no reason why the intravenous injection of theophylline ethylenediamine should not be repeated in two or three hours, if biliary pain recurs. We have not had occasion to use it by mouth or by rectal suppository, nor have we tried salts of theobromine.

The results recorded here do not allow designation of the exact mechanism of action of theophylline in the relief of biliary colic, but it would seem likely that the antispasmodic action is operative. This is probably exerted directly on the musculature of the biliary tract and perhaps also on the gallbladder, rather than on the duodenum. The effect of xanthines on the tonus and motility of the human intestine is not impressive.[5] However, it is possible that theophylline may also cause relaxation of the sphincter of Oddi, as suggested by the case cited in which the obtaining of bile specimens transduodenally was facilitated.

SUMMARY

Our purpose in this report is to call attention to a useful but neglected application of the selective antispasmodic action of theophylline. The intravenous injection of 0.25 to 0.5 Gm. of theophylline ethylenediamine has given satisfactory and often complete relief of pain in acute biliary colic. The drug may succeed when other measures fail. Untoward responses were not encountered in the small series of cases reported here. Theophylline may also prove useful in obtaining specimens of bile by means of duodenal intubation when other agents are without effect.

3. Hirshfeld, S.; Hyman, H. T., and Wanger, J. J.: Influence of Velocity on the Response to Intravenous Injections, Arch. Int. Med. **47**: 259-287 (Feb.) 1931. Goodman and Gilman.[1]

4. Means, J. W., and Delor, C. J.: Surgery of the Biliary Passages, with Special Reference to the Hazards and Their Management, J. M. A. Alabama **8**: 1-7 (July) 1938.

5. Huidobro, F.; Montero, E., and Cuevas, F.: The Effect of Certain Drugs on the Motility of Jejunoileum in Normal Man, Surg., Gynec. & Obst. **78**: 471-476 (May) 1944.

Council on Pharmacy and Chemistry

The Council has authorized publication of the following statement.

AUSTIN SMITH, M.D., *Secretary.*

BENZESTROL, A NONPROPRIETARY DESIGNATION

The Council has accepted for inclusion in New and Nonofficial Remedies a synthetic estrogenic substance known chemically as 2,4-di(*p*-hydroxyphenyl)-3-ethyl hexane. The Council has recognized the right of Schieffelin & Company to a proprietary name, and their product has been accepted under the designation Octofollin (THE JOURNAL, March 3, 1944, p. 647). The firm has since informed the Council that it will not use the name Octofollin but will market its product under the nonproprietary name Benzestrol.

Other firms will be licensed to supply the drug, and, to forestall confusion in the future, the Council has given consideration to a nonproprietary name for the drug and voted to recognize Benzestrol as the nonproprietary term for 2,4-di(*p*-hydroxyphenyl)-3-ethyl hexane.

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SATURDAY, DECEMBER 23, 1944

HEALTH EDUCATION IN BOSTON SCHOOLS

From Boston, renowned as a center of culture, comes the disturbing news that health education in the Boston schools is at a low ebb and health practices in these same schools leave much to be desired. These are the claims made by the Strayer School Survey.[1]

Among the criticisms the following are significant: "There is no excuse for teaching in the third grade the same health material presented in the first grade." Health teaching in the Boston schools is characterized as "halting, limited, superficial and indifferent" and the Strayer surveyors find it "difficult to understand the policy that started health instruction in the schools and have made no provision for textbooks for the pupils." Many of the health lessons are characterized as writing exercises rather than health lessons: "The teacher dictates from a book and the children write what is dictated. With this sort of thing going on it is not strange that public education is sharply criticized in its methods."

Health examinations are made in about one minute's time per pupil. The Strayer report suggests eliminating the requirement that all pupils be examined every year and that more thorough examinations at longer intervals be substituted with special attention given to all new pupils, those competing in sports and those referred for special attention by teachers or nurses. Special attention should be given to pupils returning to school after illness.

Not only is health instruction and health examination practice unsatisfactory, but first aid and health rooms in some schools are found inadequate. The school plant and its operation also are criticized:

> The school plant should be the place that exemplifies all the best that we know in the field of health. This is not the case in Boston. Children in the Boston schools may study the value of fresh air and the importance of good ventilation. But in one school there were double windows still on in May. In another the windows cannot be opened because of broken window cords or chains.
>
> In still another there are so many plants on the window sills that the windows are not opened for fear of chilling the plants or injuring them. Many of the school assembly halls are poorly ventilated. One of them is grossly overheated regularly. The children have their eyes tested for vision and are sent to the oculist, but in some of the old buildings the light is very faulty and artificial lighting is very inadequate.

In certain schools children are not allowed to go to the toilet or even get a drink without the teacher's permission. In some bubble fountains the water is so hot and bad tasting that children go without it. Washing of hands is discouraged because of lack of facilities. Not one container for soiled paper towels was found. In some schools toilet rooms were dirty and uncared for. Children study nutrition, but the lunchrooms offer menus that are largely carbohydrates.

Recalling that Boston was a pioneer in health education, physical education and recreation, the Survey reports "these three areas, once so bravely pioneered, have not been maintained at the high level that might be expected."

The story about Boston and its schools is significant because in place of Boston one might put the names of a large number of American cities. This condition, which in Boston is at least being studied as a first step toward providing remedies, exists in too many cities, large and small, where it is not even recognized. There are, of course, American communities, both large and small, in which school health work is done on a high level, where school health authorities are constantly on the alert and where health departments and the schools cooperate effectively for the health of school children. School health conditions in the three principal fields, namely health instruction, health examination and guidance and healthful living practice, range from the very best to the very worst according to locality. However, on a nationwide basis school health service is probably the spottiest and least effective branch of standard recognized public health procedure.

The medical profession and the educational profession are alert to the situation. For thirty-three years a joint committee of the National Education Association and the American Medical Association has been active in the field of health problems in education. Its report "Health Education" [2] is a standard textbook in this field today, as it was a pioneer in its first edition in 1925. The American Association of School Administrators in

1. Strayer School Survey by Louis M. Lyons, Boston Daily Globe, Nov. 13, 1944.

2. Health Education, Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, ed. 3, 1941.

its 1942 Yearbook [3] recognized the importance of health in the schools and addressed the book directly to school administrators, recognizing in them the key to improvement in health conditions in the schools. Four of the scientific sections of the American Medical Association, cooperating with the Joint Committee and with four sections of the American Public Health Association and with the Association for Health, Physical Education and Recreation, have issued a brief statement on suggested school health policies [4] which has been widely used by school administrators and in teachers' colleges. There is substantial agreement between the two great professions, medical and educational, concerned with health problems in education. Principles have been recognized and standard practices are well defined. Local communities need to apply these principles. Such studies as the Strayer Survey in Boston and the publicity given to them are constructive stimuli to improvement in the school health field. If the nation is going to have the physical fitness which military authorities, physicians and educators now demand, the basis for such fitness must be the good health of our young people. These young people are now being delivered to our schools in a better state of health than ever before. The schools must face the responsibility of delivering them back to the community at the end of their educational experience in a state of health better, if possible, than at the beginning but certainly no worse. Hundreds of American cities could profitably follow Boston's example, bringing to light and publicizing their own weaknesses and then taking steps to correct them.

DEMOBILIZATION AND DOCTORS

The ever tightening encirclement of Germany and the increased flow of men and supplies to the Allied Armies indicate ultimate victory in Europe in the not too distant future. Germany has not, however, been defeated, and military leaders assert that bitter fighting is still ahead. However, assurance has been given that victory will be ours in the European war. Without minimizing the efforts that must be given by all to attain an early defeat of Germany, the problems of winning the war against the Japanese must be considered also.

Armies and navies are organized and equipped to achieve specific objectives. They are no longer rigidly constituted bodies conforming to traditional tables of organization; instead, they are built now to accomplish definite aims. Successful operations against the Japanese will no doubt require a striking force different from that used against the Germans. After the occupation of Germany a reorganization of the Army may be anticipated to make it the most effective striking power against the Japanese. The Navy has already transferred most of its amphibious forces from the Atlantic to the Pacific. Experience in the Pacific shows that jungle warfare requires tough, young, aggressive soldiers. The same qualifications are needed for medical officers, who must follow troops closely to render the most effective medical service. Discussions in the halls of Congress intimate that there will be a reduction in the size of the Army after the defeat of Germany but that the Navy will continue to expand until it reaches its full authorized strength.

The War Department has recently published a series of directives, called "Readjustment Regulations," outlining the mechanism by which men will be released from service. Soldiers will be released on a point system whereby credits are given for length of service, overseas service, active participation in campaigns and battles, decorations and awards and dependents. Administrative details and technics of operations are being perfected.

Medical officers occupy a unique position in the plans for partial demobilization of the Army after it conquers Germany. There are special considerations that must be given to a profession that has more than one third of its active members in the armed forces. A partial redistribution of physicians between the civilian population and the armed forces must be effected to equalize the tasks of physicians of a nation at war.

Definite plans for the reallocation of physicians between the services and civilian communities in Great Britain have been announced by a special committee known as the Demobilization Committee of the Central Medical War Committee. At the request of the Ministry of Health the Demobilization Committee made a special study of the situation and suggested the selection of two groups of men for return to civilian life. Class A, the larger group, will be chosen according to age and length of service:

> Within class A there will be special priority for men of 50 years of age and over, who will be released before other men if they so wish. Otherwise, men in class A will be released by release groups determined by a combination of age and length of war service on the basis that two months of service are equivalent to one additional year of age. For example, a man of 22 with four years' service will be in the same release group as a man of 40 with one year's service.
>
> The release of men in class A will begin as soon as practicable after the defeat of Germany, but there will necessarily be a pause to enable the services to identify the men who are to be released first and to arrange for the return to this country of those who are overseas. The number of releases in class A will depend on the reduction that is found to be possible in the strength of the forces and also on the number of new recruits called up.

3. Health in Schools, Yearbook, American Association of School Administrators.
4. Suggested School Health Policies, American Medical Association. Single copies free when requested on official letterhead.

To assist in resettlement, men in class A will receive on release eight weeks' leave with full pay and certain allowances, and additional leave and pay will be given in respect of foreign service. When the period of leave has expired these men will be placed in a special class of Reserve, from which they would be recalled only in an extreme emergency.

A smaller group, class B, will be used to supplement the labor force needed for construction after the war. Men will be transferred into class B on the basis of special occupational qualifications, age and length of service. Since such men will leave the service earlier than their turn, they will not be entitled to the same benefits as those in class A but will be held in the Reserve and be liable for further military duty. All transfers of medical officers from the services to class B will clear through the Central Medical War Committee. The release of men from class A will aid effectively in the hard pressed civilian medical services. In England there is a national service act that facilitates the solution of problems concerned in medical care.

The time is not too soon for serious thought on the many faceted problems of demobilization of doctors from the armed forces. Some of these problems are now being considered by the Committee on Postwar Medical Services.

STANDARDS OF PHYSICAL FITNESS

What is physical fitness? Is it the ability to resist fatigue? Is it longevity or is it muscular strength? Or is it a combination of these and perhaps other ingredients? Many discussions of physical fitness neglect to define accurately the standards and aims of physical fitness programs. Physical fitness is neither a fixed standard nor an average but rather an objective. A man of 20 to be physically fit should be able, perhaps, to carry a 40 pound pack 20 miles in eight hours; at the age of 14 or at 50 the same man probably would not be able to perform this task, and yet he could be considered physically fit. A farmer of 45 should have a different standard of physical effectiveness than a politician of the same age. The standards of physical fitness are different for men and for women. As a group, women have less muscular strength and endurance than men. They stand pain better and live longer on the average. Thus age, occupation and sex are important elements which must be considered in setting any kind of ideal standard. Other aspects of a standard offer fewer difficulties. Certainly a person with a hernia, carious teeth or poor vision, for example, cannot be considered physically fit, regardless of age, occupation or sex. The elimination of preventable or remediable defects is a step toward physical fitness.

Certain criteria of physical fitness may be eliminated in relation to particular occupations. The ability to run a mile, lift a heavy weight or perform similar feats of muscular strength or endurance may be useful only for those who are required to do these things because of military or occupational necessity. At certain ages, of course, physical normality should include the potentiality of being trained into a degree of "physical fitness" and performing thereafter certain activities which had been impossible in the pretraining period.

The development of methods for the objective determination of standards of physical fitness at various ages for different types of occupation and for the two sexes is badly needed. To date the simplest tests of fitness are cardiovascular and respiratory; a third type of test evaluates the ability to resist fatigue in response to sensory stimuli. These measurements are still deficient in certain respects, however, and much further work remains to be done. Until there is more agreement on acceptable testing methods it will be difficult to adopt standards of physical fitness.

There is a recognizable difference between the ideal and a practical physical fitness program. Not all young men can develop equal degrees of muscular strength or endurance. Some who cannot attain perfection measured by those criteria may demonstrate by their greater longevity a higher degree of fitness, at least in that respect, than those who more closely approach the ideally developed physical specimens. Discrimination in these matters is essential; all physical "standards" should include recognition of the fact that deviations from them do not necessarily condemn the substandard person to a life of inactivity, to poor health or to early death.

The psychologic aspects of the physical fitness programs must not be neglected. Some people who do not measure up to any standards likely to be adopted may consider themselves physical wrecks; this may have serious psychologic repercussions. To counteract this possible hazard it is merely necessary to point out that human history contains the records of many persons who have achieved distinction, fame and fortune in the face of physical defects which would disqualify them on the basis of any conceivably acceptable standards. Indeed, the contemporary scene likewise presents many figures who have been notably successful in the face of severe physical defects.

To increase the general average of physical fitness is the purpose of the current campaign. The elimination of inherited defects is not commonly included in the physical fitness program, but its part in the problem should be recognized. Influencing the environment is the major avenue of approach. The environment may affect the physical condition by means of diet, disease, working conditions, presence of remediable defects and recreation, including physical exercise. The latter alone will alter the physical condition to a limited extent only. Such factors as those mentioned must be attacked if the highly desirable objective of improving the general physical condition of the American people is to be achieved with maximum success.

GLUTAMINE

Glutamine in the blood, as previously pointed out in these columns,[1] is the source of the ammonia in the urine. The functional importance of ammonia as the endogenous base makes this fact especially significant in metabolism. Glutamine, an acid amide, is a constituent of the protein molecule. It may occur free in certain tissues, as indicated by its discovery in horse meat extract in a study[2] which, furthermore, proved its indispensability for the growth of the hemolytic streptococcus.

Glutamine is also present in body fluids. In 1942 Hamilton[3] pointed out that in picric acid filtrates of human and canine plasma there is present an organic compound containing nitrogen which behaves strikingly like glutamine when heated at an acid reaction. Shortly thereafter another report[4] called attention to a glutamine-like substance in the protein free filtrate of plasma and serum of man and rabbit in a concentration of 5 to 10 mg. per hundred cubic centimeters. These observations are given added weight by the perfection of an analytic method depending on the highly specific enzyme glutaminase prepared from dog kidney. Using this procedure, Archibald[5] has found 6 to 10 mg. of glutamine per hundred cubic centimeters in normal human plasma and has shown that the white and yolk of the egg contain this compound, the concentration in the latter decreasing during incubation. There seems little doubt, in the light of the foregoing observations, that glutamine is a normal constituent of the blood.

Glutamine has been recognized as a usual component of the cells of many plants for more than half a century. It can be prepared readily from the common beet,[6] and the concentration in plants has been shown to respond readily to nitrogenous fertilizers.[7] In plants glutamine is believed[8] to represent an intermediate stage in the transfer of nitrogen from the storage protein of the seed to the tissue protein of the growing parts, and its concentration is influenced by the respiratory activity of the plant.

Already the observation[9] has been made that carbohydrate metabolism is related to the presence of glutamine; administration either of insulin or of glucose decreases the amount of glutamine in the blood. More data are needed before a complete picture of the metabolic function of glutamine can be suggested; there seems little doubt, however, that some current uncertainties with respect to intermediary metabolism will be removed when this is done.

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Current Comment

VISCERAL REACTIONS TO ANOXIA

The occurrence of myocardial necrosis and calcification in dogs subjected to tourniquet shock[1] or histamine shock[2] attracts attention once more to the visceral reactions following anoxic episodes of varying duration affecting the heart, aorta, brain, testes and bone marrow. Similar degeneration, necrosis and fibrosis of the myocardium have been observed in man and in animals after poisoning with epinephrine, nicotine, digitalis glycosides, parathyroid injection, vitamin D, nitrites, carbon monoxide, carbon disulfide and reduced oxygen pressure and also after excessive physical labor. The lytic necrosis with cyst formation in the media of the ascending aorta of man after burn shock, of dogs after histamine shock and of rabbits following the injection of epinephrine are evidently also of anoxemic genesis. Focal softenings and gliosis of the brain often located in the basal ganglions and giving rise to parkinsonism have been observed in man and animals after poisoning with carbon monoxide, carbon disulfide, cyanide, nitrites, manganese, mercury, lead, digitalis glycosides and pitressin and after exposure to reduced oxygen pressure. The spermatogenic epithelium of the testis appears to be similarly sensitive to anoxia. Degeneration of this tissue was seen after prolonged exposure to reduced oxygen pressure (chronic mountain sickness) and after poisoning by carbon monoxide and disulfide, nitrites, mercury, manganese, nicotine and lead. After a transitory period of increased libido there follows in general loss of libido and sterility, which is reversible in the early stages but may ultimately become permanent. These regressive visceral reactions to anoxia contrast with the hyperplastic response of the marrow to this condition resulting in erythrocytosis. Anoxemic erythrocytosis develops under the influence of reduced oxygen pressure (mountain sickness), after chronic exposures to carbon monoxide, nitrite and cyanide, and after manganese, epinephrine, amphetamine, ephedrine, posterior pituitary injection and lead, and also on insufficient oxygenation of the blood due to a reduced pulmonary circulation from various causes. Anoxic erythrocytosis, however, occurs only when the impairment of the oxygen metabolism is mild. Severe degrees of anoxia produce atrophic changes in the marrow resulting in anemia. From these data apparently those organs mainly are affected in anoxia which are most sensitive to deficient supply of oxygen.

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MEDICINE AND THE WAR

ARMY

ARMY NURSE SHORTAGE GRAVE

Major Gen. Norman T. Kirk, Surgeon General of the Army, recently disclosed the seriousness of the present shortage of army nurses at a ceremony in which Col. Florence Blanchfield, superintendent of the Army Nurse Corps, accepted an oil portrait of an army nurse painted by a soldier in an effort to promote nurse recruiting. General Kirk stated that the shortage of nurses in the Army is acute and is growing more so every day. He said that 40,000 civilian registered nurses in the United States who are eligible for service in the Army Nurse Corps may have been "lulled by the false impression that is prevalent in certain quarters that the war in Europe is practically over."

The painting, presented to Colonel Blanchfield by Private Rudolf Bernatschke of the Recruiting Publicity Bureau, U. S. Army, has already been made into a poster in the current drive to obtain 10,000 more army nurses. The painting depicts a blue eyed, blonde second lieutenant of the Army Nurse Corps in bold relief, with an ambulance in the background. The poster, which has been distributed throughout the nation by the Recruiting Publicity Bureau, emphasizes that "Nurses Are Needed Now!" and carries the message "If you are a registered nurse and not yet 45 years of age apply to the Surgeon General, United States Army, Washington 25, D. C., or to any Red Cross procurement office."

SOUTHERN SURGICAL ASSOCIATION MEETS AT ASHFORD GENERAL HOSPITAL

Approximately 100 members of the Southern Surgical Association attended a preliminary meeting at the Ashford General Hospital, December 4, prior to their regular meeting at Hot Springs, Ark. Following an address of welcome by the commanding officer, Col. Clyde M. Beck, the following clinical papers were presented by members of the hospital staff: Varus Deformity in Lower Third Humerus Fractures, Capt. James W. Riley; Choice of Anesthetic in Prolonged Operations, Capt. William H. Galvin; Osteomyelitis, the Use of Skin Grafts, Major Robert P. Kelly; Repair of Skull Defects, Major George L. Maltby; Penicillin Therapy in Gas Gangrene, Osteomyelitis and Cranial Injuries, Capt. F. W. Cooper; War Wounds of the Urogenital Tract, Major George C. Prather; The Circulation in Arteriovenous Fistula, Major Milton L. Kramer; Vascular Injuries of Warfare, Col. D. C. Elkin. The papers were discussed by Major Gen. Norman T. Kirk, Surgeon General of the Army; Dr. Alton Ochsner, president of the Southern Surgical Association; Dr. Frederick Coller, Ann Arbor, Mich.; Dr. John Albert Key, St. Louis, and Dr. Rudolph Matas, New Orleans.

DRS. MAXSON AND BRIDGMAN COMMENDED

Major Gen. Philip Hayes, commanding general of the Third Service Command, presented a certificate of commendation recently to Dr. Charles W. Maxson, Baltimore, for meritorious work as director of civilian medical examiners at the Fifth Regiment Armory induction center. General Hayes also awarded a certificate to Dr. Eveleth W. Bridgman, Baltimore, chairman of the examiners. The commendation of Dr. Maxson said that since November 1940 he had "contributed materially to the war effort in his role of liaison between the civilian medical examiners of the state and the armed forces induction station. He has rendered notable and distinguished service in his keen judgment and marked acumen in appointing civilian medical examiners who were recognized as outstanding specialists in their respective fields and who were respected by the entire citizenship of the state. His zeal for duty, both day and night, has led to innumerable sacrifices in his private life, all given with unstinting devotion."

Dr. Maxson graduated from the College of Physicians and Surgeons of Baltimore in 1910, and Dr. Bridgman graduated from Johns Hopkins University School of Medicine, Baltimore, in 1912.

MEDICAL ADMINISTRATIVE CORPS OFFICERS

The thirty-fourth class of the Camp Barkeley Medical Administrative Corps Officer Candidate School graduated on November 15. Col. Taylor Darby, 12th Medical Training Regiment, commander, presented the diplomas, and the graduation was presided over by Lieut. Col. John A. Nave, assistant commandant of the school.

The thirty-fifth class of the Camp Barkeley Medical Administrative Corps Officer Candidate School graduated on December 6.

ARMY AWARDS AND COMMENDATIONS

Captain William N. Heffner

The Silver Star was recently presented to Capt. William N. Heffner, formerly of Northport, N. Y., "for gallantry in action against the enemy in Normandy, France. On July 19, 1944, during the attack in the vicinity of ——, Capt. Heffner established his aid station well forward in order that more effective evacuation might result and from there coolly administered medical aid to the seriously wounded while under decimating enemy fire. In addition, Captain Heffner, from a point well beyond his aid station, in an area which was constantly under enemy fire, personally supervised the evacuation of the wounded. At one time Captain Heffner, with complete disregard for his own safety, conducted searching parties looking for casualties in areas which were under intense enemy fire. During the course of the action Captain Heffner courageously led a medical party into a sector where part of a unit had been surrounded by enemy fire and removed the wounded to a point of evacuation. As a result of his heroic actions the casualties received the most prompt medical attention, undoubtedly saving the lives of the seriously wounded. Such actions reflect great credit on himself and on the military service." Dr. Heffner graduated from Georgetown University School of Medicine, Washington, in 1940 and entered the service Oct. 22, 1941.

Captain Roger E. Watson

Capt. Roger E. Watson, formerly of Perrysburg, Ohio, was recently awarded the Silver Star Medal. His citation reads "During the entire period of June 6 to 15, 1944 in France his untiring efforts with his unit in immediate contact with the enemy exhibited outstanding judgment as a soldier and a surgeon. It was largely because of his excellent supervision and instructions to others in tactical situations while under enemy fire that he could leave our own forces three times to render medical aid to wounded French civilians. On one occasion eight Germans surrounded the house in which he was attending a wounded French child. Because of his coolness and dignity of bearing the enemy withdrew and permitted him to complete his work and return to our lines. His courage, skill and ability reflect great credit on himself and the military service." Dr. Watson graduated from the University of Pennsylvania School of Medicine, Philadelphia, in 1941 and entered the service in September 1942.

Captain Hillard A. Tolliver

Capt. Hillard A. Tolliver, formerly of Charles City, Iowa, has been awarded the Bronze Star for heroic achievement in action. Battalion surgeon in the 91st Division on the 5th Army front, he was cited for his courage in administering first aid on the field of battle under intense enemy shell fire. Captain Tolliver volunteered to go forward to an area under intense enemy artillery and mortar fire when medical aid men were casualties and first aid was needed. Although shells burst near him, he administered first aid and blood plasma, saving the lives of many of the wounded. Dr. Tolliver graduated from the State University of Iowa College of Medicine, Iowa City, in 1929 and entered the service Aug. 21, 1942.

Captain Raymond Wheeler

The Silver Star and the Purple Heart were recently awarded to Capt. Raymond Wheeler, formerly of Sanford, N. C., for bravery and for wounds received in action. Dr. Wheeler is now with a tank battalion in the European theater of war as a surgeon in the Medical Corps. He graduated from Washington University School of Medicine, St. Louis, in 1943 and entered the service in January 1944.

Captain Edward J. Horodko

The Bronze Star Medal was recently awarded to Capt. Edward J. Horodko, formerly of Chicago, for "meritorious achievement in connection with military operations against the enemy at New Georgia, Solomon Islands, from July 22 to Sept. 8, 1943." Dr. Horodko graduated from Loyola University School of Medicine, Chicago, in 1941 and entered the service July 25, 1941.

Captain William N. Baker

Capt. William N. Baker, formerly of Pueblo, Colo., has been awarded the Soldier's Medal and the Presidential Citation. This award was for rescuing two officers from drowning. The rescue was in darkness and at complete disregard for his own safety. Dr. Baker graduated from Northwestern University Medical School, Chicago, in 1938 and entered the service July 29, 1941.

Major John A. Burden

The Bronze Star Medal was recently awarded to Major John A. Burden, formerly of Maui, T. H., for "meritorious services against the Japanese forces at New Georgia and Vella Lavella, British Solomon Islands, from July 21 to December 18, 1943." Dr. Burden graduated from the University of Louisville School of Medicine in 1936 and entered the service Dec. 20, 1941.

Captain Elmer G. Lampert

Capt. Elmer G. Lampert, formerly of Wheaton, Ill., has been awarded the Bronze Star Medal for "action outside the line of duty" in the European theater. Dr. Lampert was in the Netherlands the last time he wrote his family. He graduated from Loyola University School of Medicine, Chicago, in 1940 and entered the service Aug. 25, 1941.

NAVY

SCHOOL OF AIR EVACUATION OF CASUALTIES

Vice Admiral Ross T. McIntire, Surgeon General of the Navy, recently announced the establishment of the Navy School for Air Evacuation of Casualties, which will introduce flying navy nurses for the first time. Scheduled to be launched at the U. S. Naval Air Station, Alameda, Calif., in mid-December, the school's first class will consist of 24 nurses and 24 pharmacist's mates. On completion of training, which will include flight indoctrination within the continental limits, the nurses and hospital corpsmen will report for duty with an air evacuation task unit with the fleet in the Pacific.

Although the Navy and Marine Corps pioneered in aerial evacuation of casualties—the South Pacific Combat Air Transport alone moved more than 25,000 patients, beginning with the Solomons operations in 1942—there has never been, until now, any formalized instruction of medical personnel making the flights. Naval flight surgeons who are especially trained in aviation medicine and air evacuation are exceptions. In the past, evacuees have been attended en route by hospital corpsmen in most instances.

Directed by the Deputy Chief of Naval Operations for Air to set up the new medical organization, the Bureau of Medicine and Surgery had the active cooperation of Naval Air Transport Service and the Bureau of Naval Personnel in planning the program. A number of VRH squadrons have been designated for the special duty. In addition to its regular flight and ground personnel, each twelve plane squadron will operate with 1 flight surgeon, 24 flight nurses, 1 hospital corps officer and 24 pharmacist's mates.

Ground school instruction will be under the cognizance of the medical department of the Naval Air Station at Alameda. Flight indoctrinal training will be directed by the Naval Air Transport Service, West Coast Command. Each squadron will train as a unit. All personnel are being selected carefully for physical and professional qualifications. A distinctive working uniform, now being designed, will be worn by the flight nurses. Together with the hospital corpsmen, they will receive flight pay. Lieut. (jg) Mary Ellen O'Connor, Nurse Corps, U. S. Naval Reserve, will serve as flight nurse in charge. She holds the record among American women for hours and miles in the air, 2,500,000 miles and 8,800 hours.

Capt. J. C. Adams, Medical Corps, U. S. Navy, Chief of the Division of Aviation Medicine, had general supervision of the plans for establishment of the School for Air Evacuation of Casualties. Assisting him were Capt. Leon D. Carson (MC), U.S.N., liaison officer with Naval Air Transport Service, and Capt. Sue S. Dauser, Nurse Corps, U.S.N., superintendent of the Navy Nurse Corps.

NAVY AWARDS AND COMMENDATIONS

Lieutenant Frank Martin Hall

The Navy Cross was recently awarded to Lieut. Frank Martin Hall, formerly of Jamestown, N. Y. The citation accompanying the award read "For extraordinary heroism as medical officer in charge of a naval beach party medical team during the invasion of the coast of France on June 6, 1944. Forced to swim 3 miles to shore when his own landing craft was sunk during the initial assault, Lieutenant (then Lieutenant, junior grade) Hall gallantly carried on his mission with such meager supplies as he was able to salvage from the dead and wounded. Completely unmindful of his own danger he labored with untiring zeal under the terrific fire of the enemy, resolutely assuming command of all medical work on an additional beach when it was determined that the officer in charge was missing in action and, despite the extreme hazards and the grueling strain, skilfully covered two beaches without relief until the afternoon of D plus two day. His splendid example of leadership and courage and his valiant devotion to the fulfilment of a vital and perilous mission reflect the greatest credit on Lieutenant Hall, his high professional integrity and the United States Naval Service." Dr. Hall graduated from the University of Buffalo Medical School in 1942.

Lieutenant Robert E. Walker

Lieut. Robert E. Walker, formerly of Livingston, Mont., was recently cited by the Navy Department for heroism under fire during the invasion of Guam. Dr. Walker landed with the first wave of Marines on Guam Island, and he and five other physicians had set up an advanced medical post and were performing major surgical operations within thirty minutes after firing had started. The post was set up in a wrecked concrete house within range of enemy machine gun and artillery fire. Dr. Walker graduated from the Medical College of Virginia, Richmond, in 1936 and entered the service in November 1942.

MISCELLANEOUS

WARTIME GRADUATE MEDICAL MEETINGS

The following subjects and speakers for Wartime Graduate Medical Meetings have just been announced:

Induction Center, Grand Central Palace, New York: Cardiac Irregularities, Dr. Harry Gold, January 5; Diagnosis and Treatment of Malaria, Dr. Henry E. Meleney, January 12 and January 19; Diagnosis of Anorectal Disease, Dr. Max Cowett, January 26.

U. S. Naval Hospital, Philadelphia: Coccidioidal Mycosis and Wartime, Dr. F. D. Weidman, January 12; Common Mistakes in the Diagnosis and Treatment of Gastrointestinal Diseases, Dr. H. L. Bockus, January 26.

A. A. F. Regional Hospital, Langley Field, Virginia: Chemotherapy, Dr. Henry B. Haag, January 26; Dermatology, Dr. Richard W. Fowlkes, January 26.

Newton D. Baker General Hospital, Martinsburg, W. Va.: Chest Injuries in War, Dr. I. A. Bigger, January 8; Experiences with Direct Examination of the Bronchi, Esophagus and Stomach, Dr. Porter V. Vinson, January 8.

Crile General Hospital, Cleveland: Polycythemia, Dr. Russell H. Haden, January 23.

Fletcher General Hospital, Cambridge, Ohio: Nutrition, Dr. Tom Spies, January 18; Diabetes, Dr. Cecil Striker, January 18.

Air Base Hospital, Patterson Field, Ohio: Therapy and Prevention of Rheumatic Fever, Lieut. Comdr. Alvin Coburn, January 18.

Lockebourne Air Base Hospital, Ohio: Treatment of Burns, Dr. Paul Charlton, January 11; Psychosomatic Medicine, Dr. George T. Harding, January 18.

LaGarde General Hospital and U. S. Naval Hospital, New Orleans: Management of Difficult Obstetric Cases, Dr. E. L. King, January 10; Urinary Infections, Dr. Edgar Burns, January 10; Cancer Prevention in Gynecology, Dr. Peter Graffagnino, January 10; Surgical Aspects of Peripheral Vascular Diseases, Dr. Howard Mahorner, January 10; Bacterial Endocarditis, Dr. Edgar Hull, January 10.

Winter General Hospital, Topeka, Kan.: Gastrointestinal Diseases, Dr. Carl R. Ferris, January 18; General Surgery, Dr. Claude J. Hunt, January 18.

Station Hospital, Camp McCoy, Wisconsin: Peptic Ulcer and Gastritis, Dr. Carl W. Eberbach, January 3; Chemotherapy, Present Status, Dr. Harry Beckman, January 17; Gallbladder and Liver Disease, Dr. Erwin R. Schmidt, January 31.

Station Hospital, Truax Field, Wis.: Chronic Chest Diseases and Disease of the Larynx, Dr. John D. Steele, January 3; Head and Spine Injuries, Dr. T. C. Erickson, January 17; Allergic States, Dr. Theodore L. Squier, January 31.

U. S. Naval Hospital, Oceanside, Calif.: Internal Derangements of the Knee Joint, Dr. John C. Wilson, December 28.

MEDICAL KITS FOR SCHOOLS IN EUROPE

The American Junior Red Cross is sending medicines sufficient for the needs of 1,000,000 school children in Yugoslavia, Greece and Belgium. The medicines in question are contained in kits now being purchased at a cost of $87,500. Each kit will contain approximately thirty different standard medical items, such as acetylsalicylic acid, boric acid, soap and gauze. The kits are designed to serve 400 children and are distributed to schools in the countries in question through the Joint Commission of the International Red Cross Committee. Under this arrangement kits may be sent to occupied areas as well as those that have been liberated. A total of 2,500 kits is being shipped, 1,000 to Yugoslavia, 1,000 to Greece and 500 to Belgium.

These medical kits are being paid for from the American Junior Red Cross National Children's Fund. This fund is maintained by voluntary contributions on the part of the children, and the purchase of medical kits is one of the ways in which the Junior Red Cross is participating in the rehabilitation of children in the liberated countries of Europe. Another project is the classroom gift boxes which members of the Junior Red Cross have packed and which have been sent to European countries for distribution among school children. Altogether 450,000 of these boxes, each containing twelve articles, such as crayons, pencils, rulers, sewing kits, soap and wash cloths, have been packed and shipped for distribution.

QUOTA RESTRICTIONS OF MEDICAL X-RAY EQUIPMENT FOR CIVILIANS

The X-Ray Industry Advisory Committee was recently informed by the War Production Board representatives that the present quota restrictions on the manufacture of medical x-ray equipment for civilian use cannot be lifted until certain components become less critical. Components used in the manufacture of x-ray equipment are also needed for combat equipment, and there appears to be little likelihood that military demand for these components—including fractional horsepower motors, shock proof cable, small transformers, meters, capacitators and resistors—will decrease sufficiently to justify removal of quota restrictions until after "victory in Europe."

A manufacturer's shipments of medical x-ray equipment for civilian use is limited to 75 per cent of his average annual shipments during 1937, 1938 and 1939, figured on the basis of dollar value. This quota applies only to shipments within the United States, to its possessions and territories and to Canada.

WISCONSIN VETERANS' HOSPITAL

It was reported recently that 300 acres of ground and school facilities at Tomah, Wis., will be turned over to the Veterans Administration for use as a Veterans Neuropsychiatric Hospital. The Army has discontinued operation of a military radio school there and negotiations have been under way for some time for the transfer to the Veterans Administration. The Veterans Administration announced that it plans to build a $4,880,000 1,328 bed neuropsychiatric hospital on the site. The hospital will serve southern Wisconsin, eastern Iowa and northern Illinois.

AIR SHIPMENTS OF RED CROSS MEDICINES TO CHINA ESTABLISH NEW RECORD

Air shipments of medicine into China set a new record in September, with 44 tons flown over the Himalaya Mountains from India, according to Basil O'Connor, chairman of the American Red Cross. The original Red Cross program of medicines for China called for shipment of 10 tons per month, but increased need of drugs and medicines and added flying facilities have led to an increase that will provide 40 to 50 tons a month. September shipments were of particular importance, since they were made up largely of sulfonamide drugs, some of which were flown immediately into an area where there had been outbreaks of plague. Medical shipments are sent to Calcutta, shipped overland to the Assam air fields and flown from there into China.

COLONEL ROWNTREE GIVEN SCROLL OF HONOR

Col. Leonard G. Rowntree, chief of the Medical Division of the Selective Service, received a scroll of honor recently by the New York State Committee on Physical Fitness. The scroll praised Colonel Rowntree for his "interest, understanding and efforts in behalf of the physical fitness of a nation at war and the welfare of the youth of the future."

DOCTORS ASKED TO AID ITALY

Prof. Arturo Castiglioni of Yale University School of Medicine, New Haven, Conn., is organizing the doctors of America into a unit to aid the needy people of liberated Italy with surgical instruments and medical supplies, American Relief for Italy, Inc., recently announced. Gifts donated by doctors will be shipped overseas through the agency, a member of the National War Fund.

ORGANIZATION SECTION

Washington Letter

(From a Special Correspondent)

Dec. 18, 1944.

Men Now in Army to Continue College Courses After War

Although the percentage of medical students is not given, figures released by the War Department for publication as of December 20 reveal that 500,000 of approximately 6,750,000 men now in the Army have definite plans to return to full time school or college courses. The Information and Education Division of the Army Service Forces bases the figure on a cross section survey of troops in the United States and overseas. An additional 300,000 are seriously considering resuming their education on a full time basis but are undecided or have conflicting job plans. Still another 1,200,000 men intend to attend part time school or college. Governing factors are the length of the war and prevailing economic conditions. No indication is given as to how anticipated resumption of studies will affect the flow of graduates from medical schools, although it is stated unofficially that most young men whose medical courses were interrupted will probably wish to resume their studies toward a medical career.

Proposed Appropriation of $2,000,000 Federal Aid to Cancer Research

Federal aid to cancer research, with an initial appropriation of $2,000,000 to the National Cancer Institute, the federal agency which already leads in cancer research, was proposed by E. V. Cowdry, Ph.D., of Washington University and the Barnard Free Skin and Cancer Hospital, St. Louis, to the Senate Subcommittee on Health and Education the past week. Dr. Cowdry suggested that the plan might serve as a pilot program for future federal aid to medical research. He pointed out that cancer is the most dreaded of all diseases, and although heart, artery and kidney diseases are greater killers, they are more merciful. The Cancer Institute, he suggested, would disburse the money to other institutions of recognized ability to conduct both short and long term research on cancer. Such institutions would be free to accept funds also from private sources. Additional federal aid, he said, would increase the value accruing from private donations to cancer research. An unusual feature of the proposal is that Congress should authorize the issue of a special series of government bonds to be nontransferable and bear 5 per cent interest. These could be purchased only by privately managed, nonprofit colleges and universities. In this way the less well endowed could get federal aid without giving up individual freedom.

Compromise Offered on Social Security Legislation

Representative John D. Dingell, Democrat, of Michigan, sponsor of the omnibus social security bills—introduced eighteen months ago but on which nothing has been done since, not even committee hearings—has offered to drop or compromise some controversial parts of the program. To salvage portions of the project he proposes that the big bill be split into several sections to be submitted to the new Congress opening in January. Mr. Dingell said that he considers some form of public health and hospitalization insurance, with wage earners helping to pay for it, as first on the list of items he believes should be made law, but he is against "socialized medicine," which has been opposed by medical organizations. He suggests a simple system under which a poor man can get money to pay for medical or dental attention or hospital care when his family needs it. Under his plan, doctors and dentists would not be employed directly by the government, but there would be supervision of the system by the United States Public Health Service. "There wouldn't be any big medical bureaucracy running all the doctors and hospitals from Washington," Mr. Dingell explained. "Some people may have been able to read that into our bills, but it is a false alarm." He contends that it would benefit the medical profession as well as the masses of the people if more people could pay for medical attention. They would not be so slow in asking for it. The second item on his program would be inclusion of as many as possible of the 20,000,000 American workers who do not have guaranties of old age and survivors' insurance like the 40,000,000 now covered.

Importance of Postwar Research Stressed

Research must not be neglected after the war, Brig. Gen. James S. Simmons, chief of the preventive medicine section of the Office of the Surgeon General, informed the Kelley subcommittee. "We will neglect it at our own risk," he warned. "This nation affords unlimited natural resources in scientific talent which need only opportunity and facilities to bear upon the health programs of the nations in peace or war."

Dr. Lewis H. Weed, chairman of the division of medical sciences, National Research Council, said that federal aid to medical research should be planned with regard to the total medical problem, which includes medical practice, hospitals, preventive medicine and public health.

Several medical authorities told the subcommittee that the amazing speed with which such spectacular health aids as penicillin, DDT and blood substitutes, including plasma, were developed by federally sponsored and aided research during the war was evidence of what such assistance to medical research can accomplish.

Pensions for Widows and Children of First World War Veterans

President Roosevelt has signed the bill providing pensions for widows and children of deceased veterans of the first world war. The cost is estimated at $37,000,000 in its first year. The program provides benefits up to $74 a month for families of men who served in the first world war. Pensions are provided regardless of the cause of death. Previously pensions were allowed widows and children only if the veteran died of war service disability and if he died of some other cause but had been disabled in the war. Widows without children will get $35 a month, with one child $45 and $5 for each additional child. The child of a deceased veteran whose mother also is dead will get $18, two orphans will receive $27, three will get $36, and $4 is provided for each additional orphan. Veterans must have served at least ninety days for families to become eligible.

Society Proceedings

COMING MEETINGS

Annual Congress on Industrial Health, Chicago, Feb. 13-15. Dr. Carl M. Peterson, 535 N. Dearborn St., Chicago, Secretary.

Annual Congress on Medical Education and Licensure, Chicago, Feb. 12-13. Dr. Victor Johnson, 535 N. Dearborn St., Chicago, Secretary.

Annual Forum on Allergy, Pittsburgh, January 20-21. Dr. Jonathan Forman, 956 Bryden Road, Columbus, Ohio, Director.

Society of Surgeons of New Jersey, Jersey City, January 31. Dr. Walter B. Mount, 21 Plymouth St., Montclair, N. J., Secretary.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

ARKANSAS

Dr. Fatherree Appointed Registrar of Vital Statistics.—Dr. Leroy L. Fatherree, health officer of Little Rock, has been appointed registrar of vital statistics for the city. The appointment is a part of the recent transfer of the vital statistics bureau from the city clerk's office to the health department.

CALIFORNIA

Fatal Case of Botulism.—Home packed string beans were responsible for the death of a person from botulism in southern California recently.

Changes in Health Personnel.—Dr. John O. Rafferty, Santa Rosa, recently resigned as deputy director of the California State Department of Public Health to become resident physician at the Santa Cruz County Hospital.——The city of Newman recently transferred the administration of its public health affairs to the Stanislaus County Health Department, with headquarters at Modesto. Dr. James E. Thompson had been local health officer.

Woman Wills Body and Fund for Research.—Miss Edith Clawson, who died recently at the age of 65 from a glandular disorder, provided in her will that her body be used for research and bequeathed a fund of $250,000 to Dr. Edward F. F. Copp of the Scripps Metabolic Clinic, La Jolla, to carry out the study. The will stated that Miss Clawson offered her body to serve "in medical and scientific research." It also contained a bequest of $50,000 to the Mercy Hospital, Hamilton, Ohio.

COLORADO

State Medical Election.—Dr. George H. Unfug, Pueblo, was chosen president-elect of the Colorado State Medical Society at its recent annual meeting in Denver, and Dr. Edward R. Mugrage, Denver, was installed as president. Other officers include Drs. Harry C. Bryan, Colorado Springs, vice president, John S. Bouslog, Denver, secretary, and Lloyd R. Allen, Colorado Springs, treasurer.

DISTRICT OF COLUMBIA

Portrait of George Vaughan.—An oil portrait of Dr. George Tully Vaughan, emeritus professor of surgery, Georgetown University School of Medicine, was presented to the medical school on October 16 by members of the Medical Alumni Association. The portrait is the work of John Bjorn Egeli, Washington artist. Dr. Vaughan graduated at the University of Virginia Department of Medicine, Charlottesville, in 1879. He was professor of surgery at Georgetown University and chief of surgery at the Georgetown University Hospital from 1897 to 1933 and since then has been serving as a member of the executive faculty and council and as administrative adviser to the medical school. A plaque showing a photograph of the portrait and an engrossed scroll of the resolutions of the alumni association were presented to Dr. Vaughan.

ILLINOIS

Chicago

Personal.—Lieut. (jg) Charles E. Nyberg, who served as assistant to Dr. Rosco G. Leland, Director of the Bureau of Medical Economics, American Medical Association, participated in the Normandy and southern France invasions. Lieutenant Nyberg served on the staff of the division commander of attack transport of the amphibious force.

KANSAS

School Health Study.—Clair E. Turner; Dr.P.H., formerly professor of public health, Massachusetts Institute of Technology, Cambridge, Mass., is conducting a statewide school health study in Kansas under the direction of Dr. Floyd C. Beelman, Topeka, secretary and executive officer of the state board of health, and Miss May Hare, health education coordinator in the state health department. The study aims to formulate policies, set up standards and make specific recommendations for building strong local health programs.

KENTUCKY

Physician Named Chairman of Negro Health Committee.—Dr. Maurice F. Rabb, Shelbyville, has been named chairman of the health committee of the Negro Affairs Commission, which was created late in September by an executive decree of Governor Simeon S. Willis to recommend "practical solutions to problems confronting Negroes in Kentucky in the fields of education, health, housing, economics and civil affairs." The commission organized itself into five units, one of which is that headed by Dr. Rabb.

Jane Crawford Day.—Governor Simeon S. Willis recently designated December 13 as Jane Todd Crawford Day in Kentucky in honor of the woman who submitted to the first operation for removal of an ovarian tumor, conducted by Dr. Ephraim McDowell. The occasion is of importance in Kentucky's medical history, and a monument in honor of both Mrs. Crawford and Dr. McDowell was erected in Danville, where the operation was performed, by the Kentucky State Medical Association.

Personal.—Dr. Addie M. Lyon, Frankfort, state director of hospitals and mental hygiene, on November 1 assumed the additional duties of acting superintendent of the Central State Hospital, Lakeland. Dr. Charles E. Youmans, superintendent of the State Institution for the Feebleminded, Frankfort, will become acting assistant director of the state division of hospitals and mental hygiene in addition to his present work. Dr. Lyon will be assisted at Lakeland by Dr. Frank L. Peddicord, who was named acting superintendent when Dr. Isham Kimbell resigned, several weeks ago.

LOUISIANA

Student Prizes Awarded.—Ernest C. Faust, Ph.D., professor of parasitology, Tulane University of Louisiana School of Medicine, New Orleans, gave the Ivy Day address during the present commencement exercises of the medical school. His subject was "The Heritage and Tradition of the Tulane University School of Medicine." The prizes awarded to students during the ceremonies included the following:

Querens-Rives-Shore Award for the best senior thesis on a subject in a field of cardiology to Dr. Ross Frederick Bass, Chelsea, Mass., for his thesis "An Evaluation of the Cardiac Function Tests."

Walter Reed Memorial Medal of the Louisiana State Medical Society for the best senior thesis on a subject in the field of tropical or preventive medicine to Dr. Emile Augustus Bertucci Jr., New Orleans, for his thesis "Spirochetal Jaundice."

Jacob C. Geiger Medal for the best senior thesis on a subject in the field of tropical or preventive medicine to Dr. Arnold Harvey Baum, San Francisco, for his thesis "Public Health Aspects of Rheumatic Heart Disease."

Sidney K. Simon Prize for the best senior thesis on a subject in the field of digestive diseases, nutrition or tropical medicine to Dr. Charles Daniel Knight, Shreveport, La., for his thesis "Filariasis, a Future Problem in the United States."

Award by the professor of medicine for the best senior thesis on a subject in the field of internal medicine, given to two seniors, Drs. James Clinton Prose, Fairfield, Ala., for his thesis "Liver Function Tests" and John W. Bassett, Philadelphia, for his thesis "Friedreich's Ataxia"; Drs. Juan Arosemena and Pascal Gayle Batson Jr., New Orleans, received honorable mention for their theses "The Therapy of Amebiasis" and "The Blood Supply of the Heart" respectively.

Isadore Dyer Medal for the highest average for the four years of medical school to Dr. John Winton Deming, New Orleans.

MASSACHUSETTS

Symposium on Bursitis.—The New England Society of Physical Medicine devoted its first meeting of the season, November 15, at the Hotel Kenmore, Boston, to a symposium on "Treatment of Bursitis of the Shoulders."

Research Fellowship Named for Physician.—The Helen Putnam Fellowship for advanced research has been established at Radcliffe College, Cambridge, bearing the name of the physician who gave the endowment for the award. The fellowship carries a stipend of $1,750 and will be awarded each year for an eleven month period to a resident fellow and will also provide a subsidy for the publication of manuscripts approved by the Radcliffe committee on publications. It will be available to mature women scholars in the field of genetics or mental health, and appointments will be limited to candidates submitting a plan of research that is already under way. Dr. Putnam, who graduated at Vassar College, Poughkeepsie, N. Y., received her degree in medicine at the Woman's Medical College of Pennsylvania, Philadelphia, in 1889. The first appointment to the fellowship will be made in February 1945 for an award to be dated October 1 of the same year.

MINNESOTA

Another County Accredited for Tuberculosis Control.—Martin County was recently accredited for the control of human tuberculosis, the ninth county in the state to receive this recognition under a program sponsored by the Minnesota

Department of Health and the state medical association as well as local cooperating authorities. The record in Martin County was far below that required for accreditation. The tuberculosis death rate is 3.2 per hundred thousand population for the current five year period, which is the lowest in the state, and the rate of infection among high school seniors of the county in a recent survey is less than 7 per cent. According to *Everybody's Health*, requirements for accreditation call for a death rate of less than 10 per hundred thousand and an infection rate among high school seniors of less than 15 per cent.

MISSISSIPPI

Changes in Health Officers.—Dr. Kenneth W. Navin has been named health officer of Yazoo City.——Dr. Henry G. Waldrop has been appointed in charge of the Prentiss County Health Department, Booneville.——Dr. Norris C. Knight, Meridian, has been appointed director of the Washington County Health Department.

MISSOURI

Personal.—Dr. Edward L. Burns, associate professor of pathology and bacteriology, Louisiana State University School of Medicine, New Orleans, is serving for several weeks as visiting associate professor of pathology at Washington University School of Medicine, St. Louis.

The First John Auer Lecture.—The Lambda chapter of Phi Beta Pi has established a lectureship at St. Louis University School of Medicine in honor of Dr. John Auer, professor and director of the department of pharmacology. The first lectureship was given November 29 by Dr. Warfield T. Longcope, professor of medicine at Johns Hopkins University School of Medicine, Baltimore, on "Allergic and Toxic Reactions of the Sulfonamide Drugs."

Officers of New Medical Service.—Dr. Carl F. Vohs, St. Louis, was elected president of the Missouri Medical Service, a new statewide medical-surgical plan sponsored by the Missouri State Medical Association (THE JOURNAL, July 22, p. 859). Other officers include Dr. Howard B. Goodrich, Hannibal, and Louis W. Reps, managing director of the Springfield Chamber of Commerce, vice presidents, Dr. Raymond O. Muether, St. Louis, secretary, and George M. Berry, St. Louis, treasurer. The new plan, enrolment for which will begin January 15, includes medical and surgical illness in hospitals under an allowable benefit schedule, and payment will be made directly to the physician. Monthly dues for single members will be 85 cents, for families, regardless of dependents, $2.25, while dues for man and wife will be $1.85 a month.

NEBRASKA

Personal.—Dr. Henry R. Miner, Falls City, recently completed fifty years in the practice of medicine.——Dr. Frank P. Murphy, Omaha, has been appointed chief medical examiner on the main line of the Union Pacific railroad.

Dr. Frary Resigns.—Dr. Reginald A. Frary, Lincoln, who has been a member of the staff of the Nebraska Department of Health, has resigned as director of the division of venereal disease control. During his period of association with the department, Dr. Frary has spent one year in special study at Johns Hopkins University in Baltimore.

NEW YORK

Sidney Madden to Join Emory University.—Dr. Sidney C. Madden, associate professor of pathology, University of Rochester School of Medicine and Dentistry, Rochester, has accepted a position as professor of pathology and head of the department at Emory University School of Medicine, Atlanta. The appointment will be effective in March and fills the vacancy that occurred when Dr. Roy R. Kracke left Emory to become dean of the University of Alabama School of Medicine, Birmingham.

Prize Awards.—The Rochester Academy of Medicine announces three prizes, the competition for which will close March 1. The John W. McCauley prize of $25, accompanied by a certificate of merit, will be given for the best case history offered by a first or second year house officer of an accredited hospital in Monroe County. This award is made possible through the generosity of Mrs. David B. Jewett. The Taylor Instrument Companies prize of $100, accompanied by a certificate of award, will be given for a thesis contributing to our knowledge of clinical medicine (including internal medicine, surgery, obstetrics, pediatrics or other subdivision) attained by deduction from accurate observation of cases, review of the literature, laboratory studies and public health survey or a combination of these. Competition for this prize is open to any doctor of medicine whose degree was received from an approved medical school since April 30, 1940 and who is either a bona fide resident of Monroe County or is on the staff of an accredited medical institution located in Monroe County. This award has been made possible through the generosity of the Taylor Instrument Companies. The Paine Drug Company prize of $100, accompanied by a certificate of award, will be given for a thesis contributing to our knowledge of clinical medicine (including internal medicine, surgery, obstetrics, pediatrics or other subdivision) attained by deduction from accurate observation of cases, review of the literature, laboratory studies and public health survey or a combination of these. Competition for the prize is open to any member of the Rochester Academy of Medicine in good standing on May 1, 1944. This award has been made possible through the generosity of the Paine Drug Company. The theses should be sent to the Rochester Academy of Medicine, 1441 East Avenue, on or before March 1. The thesis shall in no way bear the identity of the author but should be included with a sealed envelop carrying this identification.

New York City

Course on the Heart.—The Mount Sinai Hospital announces that a course in fluoroscopy and x-ray of the heart and great vessels will be given January 5-March 23. Drs. Marcy L. Sussman and Arthur Grishman will give the course, which is a repetition of one given earlier.

Portrait of Dr. Joachim.—On November 21 unveiling ceremonies were held at the Medical Society of the County of Kings of a portrait of the late Dr. Henry Joachim, president of the society in 1936. The portrait was presented by a group of his friends and former associates in the various hospitals with which he was affiliated. Dr. Joachim, who died Aug. 18, 1941, held a number of positions with his county medical society, serving several terms as censor, delegate to the state society, trustee and vice president. The portrait was unveiled by Dr. Benjamin M. Eis, Brooklyn, who was associated with Dr. Joachim for many years.

Amendment on "Fee Splitting."—On December 7 the New York Academy of Medicine adopted an amendment to its constitution stipulating that both "fee splitting" and receiving a rebate are unethical and in violation of the constitutional regulations of the academy. The amendment further empowered the academy's council, by a three-fourths vote of its total membership, to expel any fellow found guilty. Dr. William W. Herrick, professor of clinical medicine, Columbia University College of Physicians and Surgeons, was elected president of the academy for a term of two years. Among other officers chosen were Drs. J. Burns Amberson Jr., vice president for a term of three years, and Shepard Krech, treasurer for three years.

Friday Afternoon Lectures.—Subsequent lectures included in the Friday afternoon series at the New York Academy of Medicine which opened November 3 (THE JOURNAL, October 14, p. 445) are:

Dr. Charles L. Hoagland, The Therapy of Liver Diseases, January 5.
Dr. H. McLeod Riggins, Present Trends in the Treatment of Pulmonary Tuberculosis, January 12.
Dr. Robert F. Watson, Modern Concept of Rheumatic Fever, January 19.
Dr. Howard W. Haggard, New Haven, Conn., Problem of Alcoholism, January 26.
Dr. Fred W. Stewart, Hormone Therapy and Human Mammary Cancer, the L. Duncan Bulkley Lecture, February 2.
Dr. Philip M. Stimson, Specific Remedies in the Prevention and Treatment of the Exanthemata, February 9.
Dr. Nolan D. C. Lewis, Shock Treatment of Psychoses, February 16.

OHIO

Dr. Quigley Goes to Tennessee.—John P. Quigley, Ph.D., a member of the staff of Western Reserve University School of Medicine, Cleveland, since 1929 and professor of gastrointestinal physiology since 1943, has accepted an appointment as professor of pharmacology and chief of the division at the University of Tennessee College of Medicine, Memphis.

Friedlander Lecture.—Dr. Eugene A. Stead Jr., Atlanta, Ga., delivered the Alfred Friedlander Lecture at a joint meeting of the heart council of the Public Health Federation and the Academy of Medicine of Cincinnati in Cincinnati, December 5. His subject was "Mechanism and Treatment of Shock and Allied Disorders."

Grant for Research on Glaucoma.—The Snyder Ophthalmic Foundation has given a grant of $6,500 a year for a period of two years to the Toledo Hospital Institute of Medical Research for research on the physiology of the eye especially in relation to glaucoma. The grant will be extended, depending on the results obtained in the first two years. According to

Dr. Bernhard Stemberg, director of the Toledo Hospital Institute of Medical Research, because of the war, research will be delayed until a physiologist with specialized training in the eye can become available.

OKLAHOMA

University News.—Louis Alvin Turley, Ph.D., who retired September 1 as professor of pathology at the University of Oklahoma School of Medicine, Oklahoma City (THE JOURNAL, November 18, p. 781), recently gave to the library of the medical school a doctor's saddlebag given him by Dr. Nancy D. Campbell, Las Vegas, N. M., of the U. S. Indian Service. The bag was used in the Rio Arriba country, New Mexico, in the period before the horse and buggy made its appearance. By releasing the straps on either end of the bag it divides into two parts, which hang over the skirt of the saddle.

PENNSYLVANIA

Personal. — Dr. Marvin R. Evans, Coaldale, has been appointed chief surgeon of the Lehigh Navigation Coal Company in Panther Creek Valley to succeed the late Dr. Robert H. Kistler, Lansford.

Philadelphia

Graduate Courses. — The graduate department of public health and preventive medicine of the University of Pennsylvania School of Medicine announces that a course in industrial medicine and hygiene will begin January 2 under the direction of Dr. Charles-Francis Long. A graduate course in the control of communicable diseases will begin January 6 with emphasis placed on the value and technics of public health education in preventing disease. Additional information may be obtained from the director, department of public health and preventive medicine, University of Pennsylvania, Philadelphia 4.

Graduate Lectures.—A series of graduate lectures sponsored by the Woman's Medical College of Pennsylvania included a talk by Dr. William D. Stroud, November 22, on coronary disease and one on digitalis therapy. Drs. Samuel Bellet and William G. Leaman Jr. discussed recent trends in the treatment of cardiovascular disease, December 6. Others in the series include:

Dr. Leandro M. Tocantins, Recent Advances in Hematology, January 3.
Dr. Edward Weiss, Recent Advances in Our Knowledge of Kidney Disease, January 17.
Dr. Weiss, Practical Aspects of Essential Hypertension, January 31.

Portrait of Dr. Croasdale.—Special ceremonies were held November 29 to mark the unveiling of a portrait of the late Dr. Hannah T. Croasdale, presented to the Woman's Medical College of Pennsylvania by Miss Marjorie Trump and Mr. Charles Croasdale Trump, granddaughter and grandson, respectively, of the physician. Dr. Croasdale was said to be the first woman physician to occupy a chair of gynecology, serving the Woman's Medical College of Pennsylvania, where she graduated in 1880, as instructor in the department of surgery from 1875 to 1879 and professor of gynecology from 1880 to 1902, when she became emeritus professor. Among the speakers at the ceremonies were Dr. Catharine Macfarlane, professor of gynecology, who worked with Dr. Croasdale first as a student and then as an intern, and Rachel Bulley Trump (Mrs. Charles C. Trump), the artist who executed the portrait.

TEXAS

Society News.—Arthur R. Colmer, Ph.D., department of botany and bacteriology, University of Texas, Austin, was elected November 18 secretary of the Texas branch of the Society of American Bacteriologists to succeed Dr. Gordon Worley Jr., who resigned to enter the U. S. Navy. The election took place during the fall meeting of the Texas branch at the Baylor University College of Medicine, Houston, and was addressed, among others, by Howard W. Lundy, Dr.P.H., recently appointed director of health education of the Houston City Health Department and assistant professor of public health and preventive medicine of the Baylor University College of Medicine.

GENERAL

Orthopedic Surgeons Cancel Meeting.—The thirteenth annual convention of the American Academy of Orthopaedic Surgeons, scheduled to be held in Chicago, January 21-24, has been canceled. Dr. Myron O. Henry, 825 Nicollet Avenue, Minneapolis, is the secretary.

Crippled Children Society Changes Name.—The formal name "National Society for Crippled Children and Adults" was adopted at the recent meeting in Chicago of the national group for crippled children. Col. Elbridge W. Palmer, Kingsport, Tenn., was reelected president of the society and Mr. E. J. Howenstine, Elyria, Ohio, is secretary.

Osborne Medal Goes to John Baker. — The Osborne Medal of the American Association of Cereal Chemists will be presented to John Clark Baker, Ph.D., Montclair, N. J., during the 1945 meeting of the association in Toronto, Canada. The medal is awarded for distinguished contributions to cereal chemistry and related sciences. Dr. Baker is known for his many inventions in sanitary and pharmaceutical fields.

Society News.—Dr. Vlado A. Getting, Boston, commissioner of health of Massachusetts, was recently chosen secretary of the Association of State and Territorial Health Officers to succeed Dr. George C. Ruhland, Washington, D. C. Other officers of the association are Dr. Irl C. Riggin, Richmond, Va., president, and Dr. Roy L. Cleere, Denver, vice president. ——The twenty-eighth annual meeting of the American Dietetic Association will be held at the Netherland-Plaza Hotel, Cincinnati, October 15-19.

Robert Fischelis Chosen Secretary of Pharmaceutical Association. — Robert P. Fischelis, Phar.D., chief chemist, drugs and health supplies branch, Office of Civilian Requirements, War Production Board, has been elected to succeed the late Evander F. Kelly, Phar.D., as secretary and general manager of the American Pharmaceutical Association, effective January 1. Dr. Fischelis, who has been executive secretary and chief chemist of the New Jersey Board of Pharmacy since 1926, resigned September 1 to devote more time to activities with the War Production Board.

The Process of Group Therapy.—The American Group Therapy Association will hold its second annual meeting at the Russell Sage Foundation building, New York, January 12-13. The theme of the program will be "The Process of Group Therapy," and papers will cover treatment in groups of children, adolescents and adults and in rehabilitation of ex-servicemen. The American Group Therapy Association was organized Nov. 16, 1943 to stimulate interest and research in group therapy, issue publications, serve as a center for exchange of experience and provide consultation and training for group therapy. Offices of the association are 228 East Nineteenth Street, New York 3. Officers include S. R. Slavson, president, and George Holland, secretary-treasurer.

New Rulings of Board of Anesthesiology.—The American Board of Anesthesiology, Inc., announces that beginning January 1 all new applicants must be graduates of a grade A school recognized by the board, must have completed a year's internship (preferably rotating) in a recognized hospital (as before), must have completed two years' special training in a residency approved by the board (formerly "recommended," now required) and must have completed five calendar years (including training), 100 per cent limited in the specialty. Applicants are reminded that regardless of qualifications they must be prepared to take written, oral and practical examinations. Applications must be filed ninety days prior to examination. The next written examination will be held January 19 at various centers, and the next oral examination preceding the scientific assembly of the American Medical Association.

Hospital Orderly Sentenced on Larceny Charge. — Harry Ward, who has been working at various hospitals throughout the country as an orderly, was sentenced in Milwaukee on a charge of grand larceny recently. Ward is said to have a long prison record under his aliases as George Hamilton, Harry Harder, William Ralph, George Marlowe, Harry Ford, Harry Woods and Thomas Irvin. He will be confined at Waupun but was granted a fourteen day stay so that federal authorities might prosecute him on a narcotic charge. At various times his application for employment indicated that he was a former brakeman. He is 54 years of age, about 5 feet 9 inches in height and weighs about 136 pounds. His hair is gray, with a widow's peak in front and he has brown eyes. Ward is believed to be a narcotic user, but his racket appears to be stealing from patients in hospitals where he is working.

Vitamin D Patents Again Ruled Free.—For the second time within seventeen months the U. S. Circuit Court of Appeals, ninth judicial district, San Francisco, ruled invalid the Steenbock patents covering production of the antirachitic vitamin D through the use of ultraviolet ray lamps, according to the New York *Times*, November 25. The University of Wisconsin Alumni Research Foundation, Madison, to which Harry Steenbock, Sc.D., assigned the patents taken out in 1924, 1926 and 1933, collected $7,478,558 from licenses up to Dec. 31, 1939, at the rate of $900,000 in the final five year period, it was stated. Judge William Denman wrote that, on the evidence, "Dr. Steenbock's discoveries for the prevention and cure of rickets" were a great boon to humanity but said that it was "a public offense to withhold such processes from any of the principal foods of the rachitic poor or, indeed, from

those of any such sufferers." "Assuming that Dr. Steenbock discovered, as he claims," he stated, "that the sun's rays coming from millions of miles away could irradiate foods with vitamin D and that this was the reason, unknown to them, why farmers and coconut growers regarded their sun-cured hays and sun-dried copra as good foods, such a discovery does not entitle him to a patent on their processes." Judge William Healy agreed that Dr. Steenbock "did not invent anything" but held that the court should stick to the issue as presented by the attorneys.

Sugar Research Grants.—More than a quarter of a million dollars has been allotted in six grants to scientists according to an announcement by the Sugar Research Foundation, New York, December 8. The six recipients benefiting under these grants include:

Dr. L. Emmett Holt Jr., department of pediatrics, Johns Hopkins University School of Medicine, Baltimore, for studies relating to synthesis of B vitamins by bacteria in the human intestinal tract, with special reference to the influence of various carbohydrates.

Andrew P. vanHook, Ph.D., department of physical chemistry, Lafayette College, Easton, Pa., for study of the kinetics of sucrose crystallization.

James M. Neill, Ph.D., department of bacteriology and immunology, Cornell University Medical College, New York, for investigation of traces of serologically active polysaccharides in sugar.

Curt P. Richter, Ph.D., psychobiologic laboratory, Johns Hopkins University, for investigation of nutritive values of soft and raw sugars and of the carbohydrate-thiamine ratios taken by rats allowed free selection of all required nutrients.

John Haldi, Ph.D., department of physiology, Emory University School of Medicine, Atlanta, Ga., for study of blood sugar levels in human subjects following high protein and high carbohydrate meals of isocaloric value.

William V. Cruess, Ph.D., chief, Fruit Products Division, Agricultural Experimental Station, University of California, Berkeley, for study of sugar in quick freezing of fruit products.

Carl W. Borgmann, Ph.D., engineering experiment station, University of Colorado, Boulder, for pilot plant production of *d*-fructose (levulose) from sucrose and investigation of methods for separating dextrose and levulose.

Uniform Standards of Penicillin.—On October 20 Sir Henry Dale, president of the Royal Society, London, announced that international agreement had been reached by the health committee of the League of Nations on a uniform standard and unit of penicillin and that there could be no doubt that the workers in Great Britain and America and eventually throughout the world would be using the same standard dosage. The agreement was reached at a meeting in London attended by representatives of Great Britain, United States, Canada, Australia and Free France. According to the *British Medical Journal* Sir Henry Dale said that it was in 1921 that the health committee first took in hand the question of measurement of a number of biologic remedies in terms of their activity. This was done in order to obtain international uniformity, so that 1 unit of activity would mean the same wherever it was prescribed. The first agreements of this kind were obtained in the case of antitoxins, notably the antitoxin of diphtheria. Another example was the standardization of insulin in 1925. The same standard was adopted outside the League—in Russia, which was not then a member, and in the United States, which never became a member; the same standard was continued in Germany and Italy after they had left the League. Standardization was also applied to hormones and vitamins. The *British Medical Journal* pointed out that the new international standard penicillin would be finally purified and crystallized in the United States, but the material for this purpose would be freely supplied by manufacturers in Great Britain and the United States. There was no substance in the talk about trade rings in the manufacture of penicillin. The manufacturers in both countries had pooled their information from the very first and had given their results to the Medical Research Council, thus making the manufacture of penicillin during the war a real national effort.

LATIN AMERICA

Health Activities.—*Cuban Branch of Academy of Pediatrics.*—The first meeting of the Cuban Branch of the American Academy of Pediatrics was held in Havana, August 30, with Drs. Clifford G. Grulee, Evanston, Ill., secretary of the American Academy of Pediatrics, and Angel Vieta, Barahona, dean of the Medical School, University of Havana, as guests of honor. Consideration was given to the admission to the American Academy of Pediatrics of all Latin American pediatricians under the so-called region 5.

Conference on Hospital Administration.—A conference on hospital administration was held in Lima, Peru, December 3-16, under the auspices of the Inter-American Hospital Association cooperating with the Pan American Sanitary Bureau, the Office of the Coordinator of Inter-American Affairs and the Peruvian government. Representatives from the United States included Dr. Malcolm T. MacEachern, Chicago, chairman of the council of international relations for the American Hospital Association, Dr. Donald C. Smelzer, Philadelphia, president, and Dr. Robin C. Buerki, Philadelphia, of the American Hospital Association, Dr. Claude W. Munger, New York, president of the American College of Hospital Administrators, Mr. James A. Hamilton, New Haven, Conn., representing the Inter-American Hospital Association, and the Rev. John J. Bingham, New York, of the council of Pan American Relations of the Catholic Hospital Association.

FOREIGN

Funds for Health Work.—The sum of $900,000 was earmarked for medical work during the thirtieth annual convention of Hadassah, the Women's Zionist Organization of America, in Cleveland, November 13-16. The general program will include the initiation of a building fund for a new 250 bed tuberculosis hospital, which will be erected in Palestine as a postwar project and which will be an integral part of the Rothschild-Hadassah University Hospital, the chief unit of the Hadassah Medical Center on Mount Scopus. Dr. Haim Yassky, Jerusalem, Palestine, director of the Hadassah Medical Organization, attended the Cleveland convention; he made his first visit to the United States in 1932.

Plan to Locate Royal Colleges on Same Site.—The Royal College of Surgeons, in a recent annual report, invited the Royal College of Physicians and the Royal College of Obstetricians and Gynaecologists to move to Lincoln's Inn Fields and share the surgeons' site. The location of the three groups on the same site would assist in the development of a medical center. According to the *Lancet* the college owns a freehold of numbers 35 to 45 Lincoln's Inn Fields, a site twice the size of that occupied by its buildings before the war, which would allow for the erection of additional buildings. The museum of the college of surgeons is now located at Lincoln's Inn Fields, and the college is arranging for the return of its research laboratories, planning for the new professorship of human and comparative pathology (THE JOURNAL, Nov. 27, 1943, p. 851) and preparing space for the 27,000 museum specimens now stored in the country as well as a large number of new specimens.

Deaths in Other Countries

Dr. Carl von Noorden, known for his work in diabetes, died in Germany, according to a broadcast reported November 17.——**Dr. Rafael A. Bullrich,** formerly dean of the faculty of medical sciences of the University of Buenos Aires, died in Buenos Aires recently, aged 67.——**Dr. Julius Löwy,** chairman of the Czechoslovak Medical Association in London and authority on occupational diseases, died in London, November 25, aged 59.

Government Services

Lawrence Kolb Retires

On October 31 Lawrence Kolb, medical director, U. S. Public Health Service, in charge of the mental hygiene division, Bureau of States Services, retired, concluding thirty-five years with the public health service. Dr. Robert H. Felix was recently appointed to succeed Dr. Kolb (THE JOURNAL, November 11, p. 713). Dr. Kolb was born in Galesville, Md., Feb. 20, 1881 and graduated at the University of Maryland School of Medicine, Baltimore, in 1908. He was commissioned an assistant surgeon in the public health service on July 21, 1909 and promoted to passed assistant surgeon in 1913, to surgeon in 1921, to senior surgeon in 1930 and to medical director in 1935. Nearly his entire career with the public health service has been in the field of nervous and mental diseases.

Addition to Georgia Warm Springs Foundation

The President has approved a grant of $171,580 to construct and equip an addition to the Georgia Warm Springs Foundation Hospital to provide additional facilities for service men victims in the treatment of poliomyelitis and spinal injuries. The Army, Navy and Marine Corps requested the additional bed space at Warm Springs for the treatment of service connected cases. For more than a year the Army has shared the hospital's facilities for this purpose. The two story and part basement addition will provide room for 86 more patient beds. The foundation is to supply $171,580 of the $343,159 total cost. Twenty-three other communities in thirteen states were allotted additional funds, totaling $444,205, toward the cost of maintenance and operation of child care and recreational facilities. Among these are Baltimore, Evansville, Ind., Holyoke, Mass., Poughkeepsie, N. Y., High Point, N. C., Madison, Wis., and Houston, Texas. The Orange (Texas) General Hospital will receive an additional $15,000 to help defray expenses through March 3, 1945.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Nov. 18, 1944.

The Government's Compensation Plan for Industrial Injury

In the House of Commons Mr. Herbert S. Morrison, home secretary, opened a debate on the government's proposal to make workmen's compensation for industrial injury a state service. It would thus be part of the program for social security and national health. The proposal applies to all workers over school age working under a contract of service or apprenticeship. There will not be a special levy on hazardous industries, as proposed in the Beveridge scheme. Persons not in the hazardous industries were fortunate, the secretary felt, and would not mind contributing to the bad luck of those in other, more hazardous, industries. Another departure from the Beveridge scheme is flat rates of benefit with supplements for family needs. A workman who loses an arm, leg, eye or other part will get an industrial injury pension no matter what his earnings or his status in industry. Delays due to litigation between workmen and employers would be abolished under the proposed plan, it was stated. All claims would be paid by the government. Compensation would be based on the degree of disablement instead of on loss of earning capacity. The workman would be encouraged to cooperate in his restoration to health and earning capacity without the fear of losing his compensation. The scheme would apply to personal injuries arising out of employment and to specified industrial diseases.

The Suppressive Treatment of Malaria with Mepacrine (Quinacrine)

During the past year the medical services of the allied forces have learned much about the suppressive treatment of malaria with mepacrine. According to the *Army Medical Department Bulletin* mepacrine will not completely prevent malarial infection; there is no true prophylactic effect. But mepacrine has a valuable action in suppressing the clinical manifestations of malaria. This is shown in a reduced number of attacks, lesser severity of attacks which are not prevented and great diminution in mortality. If mepacrine is continued for four to six weeks after risks of exposure to fresh infection have passed, two good effects may be expected: a high proportion of radical cures, especially in malignant tertian malaria, and a substantial diminution in the number of gametocyte carriers. These results have an important bearing on military operations in malarious areas.

In areas where the risk of malaria is slight and mainly due to Plasmodium vivax (benign tertian) it has been found that a total weekly dosage of 0.4 Gm. will act as an efficient suppressive. But most of the areas in which our troops have been operating are highly malarious at some season. Therefore the recommended weekly dosage is 0.6 Gm. or preferably 0.7 Gm. Such doses have less effect on mental and physical efficiency than have equivalent amounts of quinine. These doses have been given over periods of a year or more without demonstrable ill effects. While taking the first few doses some may complain of slightly unpleasant side effects, mainly gastrointestinal, but under the present system these effects have been negligible and they soon disappear if the treatment is persisted in. True intolerance to suppressive mepacrine so severe as to contraindicate is rare—only to 0.1 to 0.2 per cent at the outside. Observations in the field show that the more strictly and regularly a unit has mepacrine administered, the fewer the attacks of malaria. Benign tertian infections, however, are liable to reveal themselves at a later date. No treatment is known which will prevent this.

Suppressive treatment never justifies relaxation of personal protective measures against the bites of infective mosquitoes. Evidence accumulated in the past year emphasizes that while the medical services can do and have done much to mitigate and remedy the effects of malarial infections, serious conditions may still arise, both at the time and at a later date, because of circumstances over which the services have no control. These are created by failure to enforce antimalarial measures in the strictest manner.

Social Adjustment and Venereal Diseases

The Medical Women's Federation has issued an important statement on the relation of venereal diseases to social and personal maladjustments. The statement says that while the war has brought out splendid qualities in our people and many display magnificent courage and devotion, yet it is also responsible for an accompanying malaise. Social disorders are associated with failure to practice ideal conduct as well as lack of discipline and personal responsibility. Among the signs of social malaise are (1) lowering of the standards of honesty and consideration for others, (2) an increase in delinquency, including juvenile delinquency, (3) more widespread indulgence in alcohol among young people, (4) lessening of family ties, (5) sexual incontinence, promiscuity, an increase in soliciting and consequent rise in the incidence of venereal diseases and (6) tolerance of a low type of reading matter and public entertainment. An acceptance of materialistic ideals has led to spiritual poverty, the federation states. The sense of insecurity of life, the loss of home background and other dislocations of war have increased confusion. The immediate satisfaction of an impulse is often accepted. The federation believes that continence (apart from marital relations) is the ideal for both sexes if the vitality of the race and the happiness of individuals are to be assured. They condemn the view that incontinence is not detrimental if precautions are taken against disease and pregnancy. Continence is not harmful to either sex, it is stated. For the prevention of venereal diseases and other social disorders the federation puts forward as minimal essentials (1) recognition of the vital importance of home and family life with opportunities for early marriage, (2) training from an early age in moral responsibility and social obligation, (3) religious training, (4) physical training with instruction in the functions, hygiene and control of the body, (5) training in the understanding of the emotions, (6) extension of education into adult life, including parentcraft, for both sexes, (7) encouragement of a high standard of literature and entertainment and (8) suitable opportunities for social contacts and recreation.

Training the Blinded Who Have Also Lost Their Hands

St. Dunstan's was founded for the training of men blinded in the first world war. It has to face a harder problem in this war. There are fewer blinded so far, but blinded men who are also maimed have increased considerably in number. This is due to the greater blast and fragmentation of shells and bombs and to the increase of land mines. The result is that St. Dunstan's has to train blind men who have lost their hands for entirely new occupations. It may be difficult to believe that such men can be trained to use a typewriter and similar instruments, but this is being done, thanks largely to research work in which other bodies have cooperated to produce devices to be used or gadgets that are attached to the cuffs of blinded, handless men or one handed men. These consist of hooks, pegs and clips with which they can operate not only a typewriter but also an elevator, a telephone switchboard, a wireless relay switchboard and a phonograph.

The blinded with only one hand or part of a hand are also being trained to use lathes and some of the simpler machine tools. For typing, an ingenious keyboard cover has been

devised to assist in selecting and striking the keys. A switchboard has been produced for use in connection with a new postoffice, semiautomatic telephone exchange. Devices evolved for the comfort and convenience of these doubly handicapped people include a cigaret lighter and a striking braille watch.

AUSTRALIA

(From Our Regular Correspondent)

Oct. 6, 1944.

The Future of Medical Practice in Australia

On August 19 every adult in Australia was asked to record his view as to whether or not he was prepared to grant the commonwealth government increased powers for five postwar years in a wide variety of fields, including "national health in cooperation with the states or any of them." The count of votes has now been completed and the final answer was a definite negative. The figures were 1,963,400 in the affirmative, 2,305,418 in the negative and 56,333 undecided. Because of this defeat in the referendum, two of the plans for the extension of commonwealth social services are in danger of collapse on constitutional grounds. The first scheme is that to provide free medicine, which was provided for in legislation passed early this year but is not yet in operation. In the financial budget for the forthcoming year, provision has been made for this scheme to become operable in January 1945. There has been a failure to reach a general agreement with the medical profession as regards its cooperation in this free medicine scheme. The second proposal was the national medical services scheme, which was promised when the national welfare fund was created last year. There is no provision in the constitution which authorizes the commonwealth to undertake this service or even such social services as have been operating for many years, such as the payment of maternity benefits. One of the difficulties of both the free medicine scheme and the national medical services scheme is that they both conflict sharply with the work and interest of the friendly societies and at the same time revolutionize the established practice of retail chemists and doctors. Any of these groups, or an individual from any group, could take action to have the legislation declared unconstitutional, and it is recognized in commonwealth quarters that any such action would probably be successful. The arrangement made at the premiers' conference for a commonwealth subsidy to provide free treatment in all public hospital beds in Australia is unconstitutional. The commonwealth, however, has a general constitutional power to make grants to the state, and the free hospital scheme legislation could doubtless be so framed as to depend on this power and thus survive a challenge. It is unlikely that the state governments will give the commonwealth government extended power to deal with health services. Alternatively, the states themselves may embark on separate schemes to be fused later into an Australiawide service.

Nursing Reform

The first report of the committee for reorganization of the nursing profession has now been published. The chairman of the committee is Hon. C. A. Kelly, M.L.A., minister for health in New South Wales. The primary reason for seeking to improve the status and training of nurses, as well as nursing conditions, is that for some time it has been apparent that not so many women have been volunteering for training as nurses, and even among those who complete their course many seek more lucrative employment elsewhere. Main questions for review by the committee were increased remuneration, providing for shorter hours and permitting nurses to start training at 17 instead of 18 years of age. The committee appointed three subcommittees to deal with the various aspects of the problem under the following headings: recruitment—to consider the establishment of a central recruitment bureau for a publicity campaign; conditions—to consider the allotment of better salaries, better living conditions, improved diet and lay help for domestic duties in hospitals; training—to improve the standing and status of the nursing profession from preliminary training through postgraduate to higher specialized positions. The committee is opposed to reducing the training period from four years to three years but recommends that girls be allowed to enter a preliminary training school at the age of 17 and serve a twelve months course in that school, that year to be counted as one of the four year course. It is recommended that trainees be allowed £130 a year, including board and lodging. The term "student nurse" instead of "probationer" should be used in all training schools, the committee also suggests. The establishment of a college of nursing which will control the preliminary training schools is recommended. This will be a body constituted by the government, with representatives of the nursing profession, university, medical profession and other interested groups. Postgraduate courses for trained nurses wishing to qualify as hospital and ward administrators, and Sister Tutors should be inaugurated in conjunction with university and technical college, it is proposed. Salaries for nurses should be increased, and an allowance of £26 per annum, subject to a "means" test, be granted to girls between the ages of 15 and 17 years who wish to take up nursing, to enable them to stay at school and undergo training for nursing. Conditions which are often unfavorable to nurses need to be reviewed, the committee believes. These are working hours, leaves of absence, accommodations, social life, diet, fitness of seniors to handle staff, superannuation, volume of work and uniform. The educational standard of those taking up nursing should remain as at present, while the shortage of recruits persists, but eventually it should be raised, the committee states. All training schools should have the services available of Sister Tutors—one Sister Tutor to every fifty or sixty student nurses. Specialist work should be encouraged. The committee considers that the title "Sister" should apply to every graduate nurse and the term "general nurse" or "staff nurse" be abolished. This now applies throughout the army and air force nursing services.

High Cost of Social Services in Australia

Ten years ago the total budget of the commonwealth of Australia was £71,000,000, and in 1939, when some war expenditure was met, it was £101,000,000. In the future it is estimated that social services alone will cost the commonwealth £100,000,000. This is made up as follows: invalid and old age pensions, child endowment and widows' pensions, £36,750,000; maternity allowances, funeral allowances, pharmaceutical benefits, sickness, unemployment and hospital benefits, £19,610,000; provision of medical and hospital benefits, £20,000,000; present repatriation costs, £10,400,000, and future repatriation commitments, £10,000,000. With a population of 7,000,000, this will represent an annual cost of £14 per capita.

Marriages

CHARLES C. HARROLD JR., Macon, Ga., to Lieut. Paulette Marguerite Devinck in Vesoul, France, recently.

JOHN EDWARD HUGHES, New York, to Miss Lucille Romona Hoffmann of Brooklyn, October 21.

JOHN CLAYTON O'DELL JR., to Miss Glory Sims Mott, both of Jacksonville, Fla., September 29.

WILLIAM H. JACOBSON, Canton, Ohio, to Miss Elaine P. Rhein of Brooklyn, October 21.

ROBERT G. ROSSER JR., Vass, N. C., to Miss Clara Holcombe of Weaverville, October 11.

PAUL A. MANKOVICH, Latrobe, Pa., to Miss Irene Petrick of Farrell, September 7.

FRANK J. IWERSEN, Omaha, to Miss Marcella O'Connor of San Francisco in April.

Deaths

William Alvin Bryan, Norwich, Conn.; George Washington University School of Medicine, Washington, D. C., 1908; specialist certified by the American Board of Psychiatry and Neurology, Inc.; member of the American Medical Association, American Psychiatric Association, Massachusetts Psychiatric Society and the New England Society of Psychiatry; past president of the Worcester District Medical Society and Massachusetts Association for Occupational Therapy; formerly member of the board of managers of the National Association for Occupational Therapy; at one time worked with the U. S. Public Health Service; served as chairman of the Massachusetts Board of Nursing Registration; for many years lecturer in social administration, Boston University School of Religious Education; formerly on the staffs of the Cherokee State Hospital, Cherokee, Iowa, Psychopathic Hospital, Boston, and Danvers State Hospital, Hathorne, Mass.; assistant to the commissioner, Massachusetts Department of Mental Diseases, Boston, 1920-1921; for many years superintendent of the Worcester State Hospital, Worcester, Mass.; since 1940 superintendent of the Norwich State Hospital, where he also maintained his residence and where he died November 7, aged 60, of bronchopneumonia.

Henry S. Cole ✠ Lieutenant Colonel, U. S. Army, retired, Clearwater, Fla.; Chicago Homeopathic Medical College, 1902; U. S. Army Medical School, 1925; Medical Field Service School, Carlisle Barracks, 1925, completing an advanced course in 1936; veteran of the Spanish-American War and World War I; served as captain of infantry in the Michigan National Guard; instructor in medical officers' training camp at Fort Riley, Kansas, 1917-1918; entered the medical corps of the U. S. Army as a captain in 1920, promoted to major in 1929 and retired with the rank of lieutenant colonel in 1937 for disability incurred in line of duty; member of the Association of Military Surgeons of the United States; for four terms mayor of Owasso and Whitehall, Mich.; served as health officer for many years and as chairman of the county Republican conventions; organized the Pinellas County medical defense in 1941, serving as a member of the draft board of Pinellas County since 1942; active in the Kiwanis Club; died in the AAF Regional Station Hospital, Drew Field, November 6, aged 65, of hypertension and coronary heart disease.

William Wesley Wright, Utica, N. Y.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1904; formerly senior assistant physician at the Psychiatric Institute, New York; served as clinical instructor in medicine in the departments of psychopathology and psychiatry at Cornell University Medical College and later chief of the Cornell Clinic, New York; member of the American Medical Association and the American Psychiatric Association; past president of the Utica Academy of Medicine; served as acting clinical director of the Manhattan State Hospital in New York and as first assistant physician at the Buffalo State Hospital, Buffalo; at one time superintendent of the Pilgrim State Hospital, Brentwood; formerly assistant superintendent of the Utica State Hospital; became medical superintendent of the Marcy State Hospital, Marcy, in July 1931, when it separated from the Utica State Hospital, retiring in 1943; on the staffs of the Faxton Hospital and St. Elizabeth Hospital, where he died October 28, aged 71, of cerebral hemorrhage.

Samuel Clifton Baldwin ✠ Salt Lake City; University of Louisville Department of Medicine, Louisville, Ky., 1884; specialist certified by the American Board of Orthopedic Surgery, Inc.; member of the House of Delegates of the American Medical Association, 1904, 1905 and 1908; member of the American Orthopaedic Association and the American Academy of Orthopaedic Surgeons; fellow of the American College of Surgeons; past president of the Utah State Medical Association; lieutenant colonel in charge of the army orthopedic department during World War I; colonel, medical reserve corps, U. S. Army, not on active duty; for many years chief of the Primary Children's Hospital; on the staffs of the Dr. W. H. Groves Latter-Day Saints Hospital, Holy Cross Hospital and the Salt Lake County General Hospital; consulting surgeon at the Utah State Hospital, Provo; recently received the honorary degree of doctor of science from the University of Utah, where he had been a member of the board of regents; died October 19, aged 89, of coronary heart disease.

John Leeming ✠ Chicago; Victoria University Medical Department, Coburg, Ont., Canada, 1886; L.R.C.P., London, England, 1886; also a lawyer; Second Vice President of the American Medical Association, 1916-1917; formerly connected with Northwestern University Medical School as lecturer and professor of materia medica; served as professor of medical jurisprudence and lecturer at the Kent College of Law; formerly attending surgeon at the Chicago Baptist and Cook County hospitals; retired medical counsel for the Chicago Surface Lines; died in the Illinois Central Hospital November 4, aged 85, of cerebral hemorrhage.

Fletcher Gladstone Asbill ✠ Ridge Spring, S. C.; University of Maryland School of Medicine, Baltimore, 1894; vice president of the Ridge Banking Company; died in the Columbia Hospital, Columbia, November 5, aged 76, of carcinoma of the urinary bladder.

George James Aste ✠ Chicago; Chicago College of Medicine and Surgery, 1908; formerly assistant professor of operative surgery at the Chicago Policlinic; died November 14, aged 66, of carcinoma of the descending colon and rectum, with general metastasis.

James Knox Polk Blackburn, Pulaski, Tenn.; Vanderbilt University School of Medicine, Nashville, 1893; president and formerly vice president and member of the state board of medical examiners; member of the state basic science board; city and county health officer; served during World War I; member of the American Medical Association and past president of the Middle Tennessee Medical Society; died October 31, aged 71, of heart disease.

Thomas Francis Brennan ✠ Ness City, Kan.; Creighton University School of Medicine, Omaha, 1929; president of the Rush-Ness Counties Medical Society; served an internship at the Creighton Memorial St. Joseph's Hospital, Omaha; died in Hays August 26, aged 39, of cerebral hemorrhage.

Albert A. Brooks, Orrville, Ohio; Homeopathic Hospital College, Cleveland, 1882; died October 24, aged 86, of bronchopneumonia.

Myron Ernest Carmer, Lyons, N. Y.; University of Vermont College of Medicine, Burlington, 1885; member of the American Medical Association; died November 6, aged 90, of myocarditis.

Harry Elmore Clark ✠ Pittsburgh; Western Pennsylvania Medical College, Pittsburgh, 1888; president of the Sheraden Bank; served as vice president of the University of Pittsburgh Fifty Year Alumni Club; died October 23, aged 82, of coronary sclerosis.

Leonard Hamilton Clark, Mancos, Colo.; Colorado School of Medicine, Boulder, 1894; died October 14, aged 82, of endocarditis and senility.

Emmett Addis Corbin, Eaton, Colo.; College of Physicians and Surgeons, Baltimore, 1907; served during World War I; formerly on the staff of the Greeley Hospital, Greeley; died October 5, aged 61, of pulmonary embolism following an operation for cancer.

Phillip G. Cowing, Evansville, Minn. (licensed in Minnesota in 1894); died in Fergus Falls August 21, aged 72, of myocarditis.

Matthew F. Creaven, Pittsburgh; College of Physicians and Surgeons, Baltimore, 1891; died October 21, aged 80, of chronic nephritis and general arteriosclerosis.

Harvey Thomas Cuming ✠ Pace, Miss.; University of Tennessee Medical Department, Nashville, 1899; served overseas during World War I; died September 29, aged 67, of hypertensive heart disease.

Dowdal Henry Davis ✠ Independence, Kan.; Howard University College of Medicine, Washington, D. C., 1906; died September 28, aged 61.

Charles G. Dean, Greeley, Colo.; University of Louisville (Ky.) Medical Department, 1893; died September 13, aged 77, of arteriosclerosis.

James L. De Foe, Chesterfield, Mo.; Missouri Medical College, St. Louis, 1891; died in the Missouri Baptist Hospital, St. Louis, September 28, aged 79, of lobar pneumonia.

Robert Samuel Edwards, Cedar Vale, Kan.; Bennett Medical College, Chicago, 1910; member of the American Medical Association; died September 5, aged 78, of cardiorenal disease.

William Henry Ewin, Portland, Ore.; University Medical College of Kansas City, Mo., 1891; died September 24, aged 76, of cerebral thrombosis.

George Lewis Fischer, Buffalo; University of Buffalo School of Medicine, 1903; member of the American Medical Association; died October 12, aged 66, of cerebral hemorrhage and arteriosclerosis.

Joseph Allen Fisher ✠ Metropolis, Ill.; St. Louis University School of Medicine, 1905; founder and owner of the Fisher Hospital; in 1942 had been chosen president of the Southern Illinois Medical Association; died November 1, aged 63, of coronary thrombosis.

Frank Nathan Gaggin, Chicago; Reliance Medical College, Chicago, 1909; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1910; member of the American Medical Association; past president and for many years a member of the staff of the Norwegian American Hospital; died October 27, aged 74, of chronic myocarditis.

Eugene A. Gilbert ✠ Chattanooga, Tenn.; Vanderbilt University School of Medicine, Nashville, 1913; member of the American Society of Anesthetists; past president of the Chattanooga and Hamilton County Medical Society; on the staffs of the Pine Breeze Sanatorium and the Baroness Erlanger Hospital; died in Sarasota, Fla., October 16, aged 55, of heart disease.

Alexander Liddell Gillars, Philadelphia; Jefferson Medical College of Philadelphia, 1888; member of the American Medical Association; served during World War I; formerly a resident of Pottsville, Pa., where he had been on the staffs of the Pottsville Hospital, deputy coroner, member of the school board and physician for the Schuylkill County Jail; died October 7, aged 78, of cardiovascular disease and prostatitis.

Robert Cunningham Hanna, Marion, Ala.; Hospital College of Medicine, Louisville, 1902; member of the American Medical Association; died in the Goldsby King Memorial Hospital, Salem, October 16, aged 66, of carcinoma of the liver.

Charles Henry Hayton ✠ Los Angeles; George Washington University School of Medicine, Washington, D. C., 1911; professor emeritus of otolaryngology at the College of Medical Evangelists; specialist certified by the American Board of Otolaryngology; fellow of the American College of Surgeons; on the staffs of the California and White Memorial hospitals; died October 9, aged 75, of heart disease.

Cecil Theodore Heidel, Evanston, Ill.; Northwestern University Medical School, Chicago, 1912; formerly clinical instructor in pediatrics at Rush Medical College, Chicago; died November 14, aged 62, of cerebral hemorrhage.

William Cephas Herman ✠ Cincinnati; Miami Medical College, Cincinnati, 1902; also a pharmacist; died October 24, aged 71, of carcinoma.

William Henry Hogue, Marietta, Ohio; University of Louisville (Ky.) Medical Department, 1894; died September 21, aged 75, of chronic myocarditis.

John H. Lapointe, Meriden, Conn.; School of Medicine and Surgery of Montreal, Faculty of Medicine of the University of Laval at Montreal, 1892; member of the American Medical Association; formerly police commissioner; on the staff of the Meriden Hospital; died September 16, aged 78, of coronary thrombosis.

Jarl F. Lemstrom, Minneapolis; University of Minnesota College of Medicine and Surgery, Minneapolis, 1907; formerly assistant in embryology at his alma mater; died September 24, aged 63, of carcinoma of the pancreas.

Joseph Moses Lindenbaum, Chicago; Rush Medical College, Chicago, 1923; died October 25, aged 46, of melanosarcoma.

William A. Lurie, New Orleans; Rush Medical College, Chicago, 1903; member of the American Medical Association; formerly clinical assistant in surgery at his alma mater; died in the Touro Infirmary September 24, aged 63, of carcinoma of the pancreas.

Thomas Edward MacKedon, Milwaukee; Marquette University School of Medicine, Milwaukee, 1913; served overseas during World War I; on the staffs of the Deaconess and Misericordia hospitals; died in the Veterans Administration Hospital, October 3, aged 57, of cerebral hemorrhage and essential arterial hypertension.

Angus Malcolm McAuley ✠ Byhalia, Miss.; Memphis (Tenn.) Hospital Medical College, 1904; examining physician for the draft board during World Wars I and II; for many years county health officer; died November 26, aged 66, of cerebral hemorrhage and arterial hypertension.

Harvey Benjamin McCrory, Munising, Mich.; Detroit Homeopathic College, 1909; served during World War I; formerly physician of Saginaw County; died in Grand Rapids October 1, aged 59, of interstitial nephritis and diabetes mellitus.

William Edward Merrick ✠ Cleveland; University of Wooster Medical Department, Cleveland, 1908; for many years physician for the W. S. Tyler Company; on the staffs of St. Ann's Hospital, St. John's Hospital and St. Vincent Charity Hospital, where he died October 11, aged 60, of cerebral hemorrhage.

James Mitchell, Gladstone, Mich.; Queen's University Faculty of Medicine, Kingston, Ont., Canada, 1899; member of the American Medical Association; city health officer; served as president and for many years as a member of the board of education; died October 20, aged 74, of nephritis.

Walter Willard Overfield, Forreston, Ill.; Rush Medical College, Chicago, 1890; for many years president of the Commercial State Bank; died October 1, aged 76, of heart disease.

Ivan Bryan Parker, Hill City, Kan.; University Medical College of Kansas City, Mo., 1894; member of the American Medical Association; died October 4, aged 73, of hypertension.

Henry Vincent Pennington ✠ London, Ky.; Tennessee Medical College, Knoxville, 1891; Hospital College of Medicine, Louisville, Ky., 1899; Jefferson Medical College of Philadelphia, 1900; served as president of the Laurel County Medical Society; medical director and owner of the Pennington General Hospital, where he died October 15, aged 74, of cerebral hemorrhage and diabetes mellitus.

John Charles Peters, Amityville, N. Y.; New York Homeopathic Medical College and Flower Hospital, New York, 1931; member of the American Medical Association; served an internship at the Flushing Hospital and Dispensary, Flushing, N. Y., and as resident physician at the Kingsway Hospital in Brooklyn; on the staffs of the Southside Hospital, Bay Shore, Nassau Suffolk General Hospital, Copiague, and the Brunswick Home; died October 6, aged 36, of coronary occlusion.

Joel C. Poindexter, Imboden, Ark.; Hospital College of Medicine, Louisville, Ky, 1896; died October 4, aged 79, of cerebral hemorrhage.

Michael L. Porvaznik ✠ Duquesne, Pa.; University of Pittsburgh School of Medicine, 1928; president of the Duquesne Medical Society; served an internship at the Western Pennsylvania Hospital, Pittsburgh; on the courtesy staff of the McKeesport Hospital, McKeesport; died October 11, aged 40, of pulmonary tuberculosis.

Wyeth Elliott Ray, Pawling, N. Y.; Yale University School of Medicine, New Haven, Conn., 1898; formerly medical director of the Travelers' Life and the Germania Life Insurance companies; died October 25, aged 66, of coronary thrombosis.

James Powell Riffe, Covington, Ky.; Medical College of Ohio, Cincinnati, 1894; since 1933 coroner of Kenton County; formerly health officer of Covington; on the staffs of St. Elizabeth and William Booth Memorial hospitals; served as chairman of the Kenton County Chapter of the American Red Cross, as president of the Kenton County Tuberculosis League Commission and as secretary of the Campbell-Kenton Counties Medical Milk Commission; died October 20, aged 72, of carcinoma.

Arthur Garfield Ringer ✠ Cambridge, Ohio; Ohio Medical University, Columbus, 1904; died in the White Cross Hospital, Columbus, September 30, aged 63, of congestive heart failure and acute nephritis.

Frank Henry Sargent ✠ Pittsfield, N. H.; Dartmouth Medical School, Hanover, 1890; served on the school board and in 1929 member of the New Hampshire legislature; at one time physician in charge of Sargent Hall; formerly president and later trustee of the Pittsfield Savings Bank; died July 11, aged 83, of hypostatic pneumonia and intracranial hemorrhage due to a fall.

Theodore H. Schreuder, Chicago; Rush Medical College, Chicago, 1891; died in the Norwood Park Norwegian Old People's Home, October 7, aged 84, of myocarditis and arteriosclerosis.

Herbert Emerson Smead, Toledo, Ohio; Western Reserve University Medical Department, Cleveland, 1897; at one time associate professor of pediatrics at the Toledo Medical College; past president of the Academy of Medicine of Toledo and Lucas County; formerly chief of staff of the Toledo Hospital, where he died October 21, aged 71, of bilateral bronchopneumonia.

Frank Clinton Smith, Geneva, Ohio; the Hahnemann Medical College and Hospital, Chicago, 1893; member of the American Medical Association; member of the Ashtabula County Board of Health; formerly health officer and secretary-treasurer of the board of education in Geneva; member of the Rotary Club; anesthetist at the Community Hospital, where he died October 12, aged 77, of coronary thrombosis.

Joseph Benjamin Smith ✠ Braddock, Pa.; Medical Department of the Western University of Pennsylvania, Pittsburgh,

1907; on the staff of the Braddock General Hospital; died October 16, aged 64, of coronary thrombosis.

Charles William Snyder, Louisville, Ky.; Yale University School of Medicine, New Haven, Conn., 1900; medical director of the Domestic Life and Accident Insurance Company; chairman of the board of directors of the Red Cross Hospital; died October 11, aged 74, of hypertensive heart disease.

Frederick George Speidel ✠ Louisville, Ky.; University of Louisville School of Medicine, 1917; assistant clinical professor of pharmacology at his alma mater; fellow of the American College of Physicians; member of the Southern Medical Association; specialist certified by the American Board of Internal Medicine; served in the U. S. Navy during World War I; on the staffs of the Norton Memorial Infirmary, Kentucky Baptist, St. Anthony's and Kosair Crippled Children hospitals; died October 15, aged 55, of coronary occlusion.

Solomon Ellis Spratt, Mount Sterling, Ky.; Kentucky School of Medicine, Louisville, 1900; died in the Good Samaritan Hospital, Lexington, October 18, aged 75, of heart disease.

Enoch Lafayette Stamey, Greensboro, N. C.; Atlanta Medical College, 1895; died October 17, aged 84, of cardiovascular renal disease

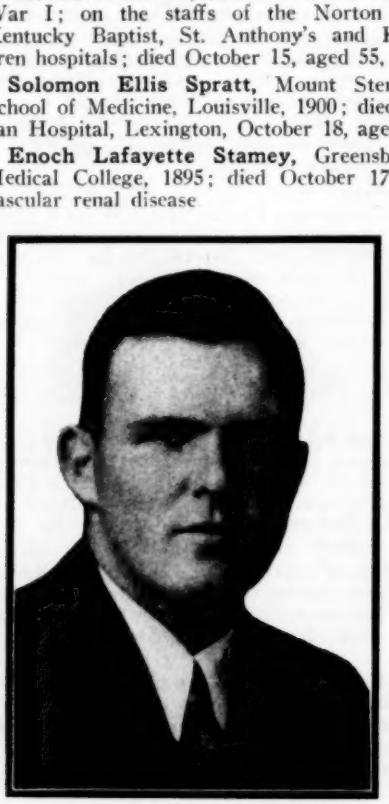
I; formerly owner and medical director of the West Side Hospital; died in St. Francis Hospital September 27, aged 65, of carcinoma of the cecum.

Burtrum L. Ware, Fort Smith, Ark.; University of Arkansas School of Medicine, Little Rock, 1909; member of the American Medical Association; past president of the Sebastian County Medical Society; served as vice president of the Farmers Bank of Greenwood; on the staffs of the Sparks' Memorial and St. Edward's Mercy hospitals; died October 11, aged 61, of heart disease.

Minerva Porter Wertz, Spencer, Iowa; State University of Iowa College of Medicine, Iowa City, 1893; died September 13, aged 73, of myocarditis.

John Harrison Wood, Georgetown, Miss.; Memphis Hospital Medical College, Memphis, Tenn., 1904; died October 2, aged 74, of heart disease.

Eugene Wynne, Brooklyn; Long Island College Hospital, Brooklyn, 1908; member of the American Medical Association; head physician of the Bethlehem Steel Company plant; served on the staffs of the Norwegian Hospital, Samaritan Hospital and the Methodist Hospital, where he died October 21, aged 60, of heart disease.



CAPT. WILLIAM E. McCLAIN JR.
M. C., A. U. S., 1912-1944

CAPT. ZEPHANIAH B. WEINGART JR.
M. C., A. U. S., 1917-1944

CAPT. ISADORE MARVIN SILVERMAN
M. C., A. U. S., 1911-1944

William McHenry Swickard ✠ Charleston, Ill.; Rush Medical College, Chicago, 1926; on the staff of the M. A. Montgomery Memorial Hospital; died October 15, aged 46, of adenocarcinoma.

Colmore Hasty Tate, Chicago; Chicago College of Medicine and Surgery, 1913; died October 5, aged 56, of coronary thrombosis.

David Thomas ✠ Lorain, Ohio; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1912; member of the board of censors, past president and vice president of the Lorain County Medical Society; trustee of the Pleasant View Sanatorium; chief of the obstetric department of St. Joseph's Hospital; a lieutenant in the medical corps of the U. S. Army during World War I; died October 19, aged 58, of cardiac failure and carcinoma of the sigmoid.

Hubert Dale Joseph Thomas, Dallas, Texas; Baylor University College of Medicine, Dallas, 1943; served an internship and residency in medicine at the Wichita Falls Clinic Hospital, Wichita Falls; died in a local hospital September 26, aged 31.

Thomas Raymond Usher ✠ Maplewood, Mo.; St. Louis University School of Medicine, 1932; formerly an intern, resident in surgery and superintendent of St. Louis County Hospital, Clayton; served on the staffs of Deaconess Hospital, St. Mary's Hospital and the Missouri Baptist Hospital, St. Louis, where he died September 30, aged 40, of injuries received when his automobile collided with a street car.

Benjamin Van Campen, Olean, N. Y.; University of Buffalo School of Medicine, 1908; served during World War

Arthur John Zimlick, Philadelphia; Washington University School of Medicine, St. Louis, 1895; member of the American Medical Association; served during World War I; died in St. Joseph's Hospital September 2, aged 70, of arteriosclerotic heart disease.

KILLED IN ACTION

William E. McClain Jr., Seattle; Creighton University School of Medicine, Omaha, 1938; served an internship and residency in surgery at the King County Hospital; commissioned a first lieutenant in the medical corps, Army of the United States, on July 7, 1942; later promoted to captain; a flight surgeon; killed in action in the European area June 19, aged 31.

Zephaniah Branch Weingart Jr., Lecompte, La.; Tulane University of Louisiana School of Medicine, New Orleans, 1942; served an internship and residency at the Charity Hospital in New Orleans; commissioned a first lieutenant in the medical corps, Army of the United States, on July 7, 1942; later promoted to captain; killed in action in the European area July 13, aged 27.

Isadore Marvin Silverman, Brooklyn; Creighton University School of Medicine, Omaha, 1936; served an internship at the Hospital for Joint Diseases in New York; commissioned a first lieutenant in the medical corps, Army of the United States, on July 3, 1942; later promoted to captain; killed in action in France, August 26, aged 32.

Council on Medical Education and Hospitals

GRADUATE CONTINUATION COURSES FOR PRACTICING PHYSICIANS

In accordance with the plan of the Council on Medical Education and Hospitals, advance information concerning graduate continuation courses for practicing physicians available in various centers is published semiannually. The following list consists of courses beginning during the period January 1 through June 30, 1945. It is hoped that this material will be useful to physicians seeking opportunities for postgraduate work. Physicians called on to assume new responsibilities because of the war and physicians who are returning to practice may find here listed courses which will be of help to them. Since many of the classes are necessarily limited, those who contemplate enrolling in any of these courses are urged to communicate as early as possible with the institution listed.

Institutions offering continuation courses are invited to announce such courses in these semiannual lists compiled by the Council on Medical Education and Hospitals.

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Graduate Continuation Courses for Practicing Physicians—Jan. 1, 1945–June 30, 1945

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
ALLERGY			
(See also Dermatology and Syphilology)			
Tufts Medical School Postgraduate Division, 30 Bennet Street, Boston 11, Massachusetts At: Boston Dispensary	Allergy	May 14 thr. 18, 1945	$25 [1]
Long Island College of Medicine, Medical Society of County of Kings, and Academy of Medicine, Brooklyn At: Kings County Hospital, 451 Clarkson, Brooklyn, New York	Allergy	April 6, 1945 for eight weeks, once a week	10
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Allergy	January 5 thr. February 23, 1945, part time April 9 thr. 27, 1945, full time	25 200
Columbia University At: Mount Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Recent Advances in Allergy	March 12 thr. 16, 1945	30
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Allergy	Arranged. 2 months	50
Seventh Annual Forum on Allergy, 956 Bryden Road, Columbus 5, Ohio At: William Penn Hotel, Pittsburgh, Pennsylvania	Seventh Annual Forum on Allergy	January 19, 20, 21, 1945	..
ANATOMY			
(See also Orthopedic Surgery, Otology, Otorhinolaryngology, Proctology and Surgery)			
Research Study Club of Los Angeles, 727 West 7th Street, Los Angeles, California At: University of California, North Broadway Clinic, San Francisco, California	Applied Anatomy and Cadaver Surgery of Head and Neck	February 2 thr. 6, 1945	50 [2]
University of Michigan Medical School, Michigan State Medical Society, Wayne University, Michigan Department of Health At: East Medical Building, Ann Arbor, Michigan	Anatomy	Spring, 1945, once a week during spring term	25
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Dissection of Head and Neck [4]	Arranged. Part time	per hour 10
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Applied Anatomy of the Abdomen	Arranged. 130 hours	either sex 300 both sexes 500
	Applied Anatomy for the Anesthetist	Arranged. 100 hours	275
	Applied Anatomy of the Ear, Nose and Throat	Arranged. 80 hours	275
	Applied Anatomy of the Head and Neck	Arranged. 160 hours	300
	Applied Anatomy of the Lower Extremity	Arranged. 60 hours	115
	Applied Anatomy for the Orthopedic Surgeon	Arranged. 100 hours	275
	Applied Anatomy of the Thorax	Arranged. 110 hours	275
	Applied Anatomy of the Upper Extremity	Arranged. 60 hours	115
	Applied Anatomy of the Uro-Genital System	Arranged. 160 hours	295
University of Pennsylvania Graduate School of Medicine, 237 Medical Laboratories, Philadelphia, Pennsylvania At: University of Pennsylvania Anatomical Laboratory, Philadelphia, Pennsylvania	Rhinolaryngologic (Cadaver) Operations	Arranged. 10 days, 20 hours	150
ANESTHESIOLOGY			
(See also Anatomy and Obstetrics and Gynecology)			
University of Georgia School of Medicine At: University Hospital, Augusta, Georgia	General Anesthesia (Inhalation and Intravenous)	Arranged. 2 weeks	150
	Regional Anesthesia	Arranged. 2 weeks	150
Harvard Medical School Courses for Graduates, 25 Shattuck Street, Boston 15, Massachusetts At: Boston City Hospital, Harvard Teaching Service and Faulkner Hospital, Boston	Clinical Anesthesia	Arranged. Monthly	50
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Anesthesia [4]	January thr, June, 1945 2 weeks, full time	100
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Regional Anesthesia [4]	Arranged. 12 sessions	75 [2, 3]
	Regional, Spinal, etc., Anesthesia	First of any month. 3 months, full time	300 [2, 3]

References will be found on p. 1111.

Graduate Continuation Courses for Practicing Physicians—Jan. 1, 1945–June 30, 1945—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
ARTHRITIS			
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Arthritis and Allied Rheumatic Disorders	January 2 thr. February 27, 1945 Part time	$45
		April 9 thr. 13, 1945. Full time	45
BACTERIOLOGY (See also Laboratory and Ophthalmology)			
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Clinical Bacteriology and Serology	January 2 thr. 31, 1945. Part time	50
BRONCHOESOPHAGOLOGY (See also Endoscopy)			
Temple University, Broad and Ontario Streets, Philadelphia, Pennsylvania	Intensive Course in Laryngology and Bronchoesophagology	February 5 thr. 16, 1945	Announced
CARDIOVASCULAR DISEASES (See also Radiology)			
Harvard Medical School Courses for Graduates, 25 Shattuck Street, Boston 15, Massachusetts At: Beth Israel Hospital, Boston	Cardiology	May 14 thr. June 14, 1945. Daily	150
Tufts Medical School Postgraduate Division, 30 Bennet Street, Boston 11, Massachusetts	Cardiology	April 30 thr. May 4, 1945	25 [1]
University of Michigan Medical School, Michigan State Medical Society, Wayne University and Michigan Department of Health At: University of Michigan Hospital, 1313 Ann Street, Ann Arbor, Michigan	Diseases of Blood and Blood-forming Organs	Spring, 1945. 5 days	25
	Diseases of the Heart	Spring, 1945. 3 days	15
Long Island College of Medicine, Medical Society of County of Kings, and Academy of Medicine, Brooklyn At: Israel Zion Hospital, 4802 10th Avenue, Brooklyn, New York	Clinical Cardiology	April 10, 1945. 4 Tuesdays	10
	Peripheral Vascular Diseases	April 10, 1945. 6 weeks, twice weekly	10
At: Jewish Hospital, 555 Prospect Street, Brooklyn, New York	Hypertension and Nephritis	April 18, 1945. 8 Wednesdays	10
At: Kings County Hospital, 451 Clarkson, Brooklyn, New York	Heart Disease in Childhood	April, 1945. 10 sessions	10
American College of Physicians, 4200 Pine Street, Philadelphia, Pennsylvania At: Columbia University College of Physicians and Surgeons, New York, New York	Cardiology	March 19, thr. 24, 1945	Members 20 [2] Nonmembers 40
Columbia University At: Mount Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Bedside Clinics in Heart Disease	February 5 thr. March 26, 1945 Part time	25
	Comprehensive Course in Elements of Cardiovascular Diseases	April 2 thr. June 20, 1945	75
	Intensive Fluoroscopy and X-Ray of Heart and Great Vessels	January 5 thr. March 23, 1945 Part time	30
At: Montefiore Hospital, East Gun Hill Rd., Bronx, New York	Clinical Cardiography	February 15 thr. May 24, 1945 Thursday afternoons	50
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Cardiology	March 12 thr. 16, 1945. Full time	45
	Peripheral Vascular Diseases	January 2 thr. February 27, 1945 Part time	30
		March 19 thr. 23, 1945. Full time	45
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York (Given also at Metropolitan Hospital, New York, New York)	Cardiology	Arranged. 20 hours	150
	Peripheral Vascular Diseases	Arranged. 2 weeks	150
		14 sessions	200
Woman's Medical College of Pennsylvania, Henry Avenue and Abbottsford Road, Philadelphia 29, Pennsylvania	Clinical Cardiology	Arranged. 2 weeks	100
University of Texas Medical Branch, Galveston, Texas At: John Sealy Hospital, Galveston, Texas	Cardiology Conference	Announced. 2 days	None
CHEST DISEASES (See also Anatomy, Medicine and Radiology)			
Municipal Tuberculosis Sanitarium, 5601 North Pulaski Road, Chicago, Illinois	Postgraduate Course in Tuberculosis	Arranged. Continuous	None
State Sanatorium, State Sanatorium, Mississippi	Chest Diseases and Internal Medicine	Entire year. 2 to 6 weeks	None
Missouri Tuberculosis Association, 411 North 10th Street, St. Louis 1, Missouri; Missouri Trudeau Society and Tuberculosis Committee of Missouri State Medical Association At: Towns throughout Missouri	Refresher Course, X-Ray Conference	Various dates. 1 evening	None
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Acute and Chronic Diseases of the Chest	January 4 thr. February 15, 1945 Part time	45
Columbia University At: Columbia Presbyterian Medical Center, 630 West 168th Street, New York, New York	Physiologically Directed Therapy in Asthma, Pulmonary Emphysema and Chronic Pulmonary Tuberculosis	Arranged. 2 weeks. Full time	50
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York (Given also at Metropolitan Hospital, New York, New York)	Diseases of the Respiratory System	Arranged. 1 month	150
	Thoracic Surgery	Arranged. 36 hours	250
DERMATOLOGY AND SYPHILOLOGY (See also Medicine and Physical Medicine)			
Tufts Medical School Postgraduate Division, 30 Bennet Street, Boston 11, Massachusetts At: Boston Dispensary Skin Clinic and Pratt Diagnostic Hospital, Boston	Dermatology A	May 14 thr. 19, 1945	30 [1]
At: Boston City Hospital, Boston	Industrial Dermatology [13]	January 15 thr. 20, 1945	55 [1]
Columbia University At: Mount Sinai Hospital, 5th Ave. and 100th St., New York 29, New York	Venereal Diseases	February 8 thr. March 29, 1945 Part time	25
	Clinical Dermatology and Syphilology	Arranged. 6 weeks or 3 months. Part time	6 weeks 50 3 months 85
	Dermatology and Syphilology for Pediatricians [4]	February 7 thr. April 25, 1945 Part time	100
	Diagnosis and Treatment of Syphilis	Arranged. 6 weeks or 3 months. Part time	6 weeks 30 3 months 50
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Practical Instruction in Dermatological Allergy and Immunology	Arranged. 6 weeks or 3 months. Part time	6 weeks 50 3 months 85
	Practical Instruction in Diagnosis and Management of Syphilis	Arranged. 6 weeks or 3 months. Part time	6 weeks 50 3 months 85
	Seminar in Practical Dermatology and Syphilology	April 30 thr. May 5, 1945 Full time	50
	Symposium on Dermatology and Syphilology [4]	May 14 thr. 19, 1945. Full time	90

References will be found on p. 1111.

Graduate Continuation Courses for Practicing Physicians—Jan. 1, 1945–June 30, 1945—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Dermatology and Syphilology	First of any month. 3 month, part time 6 weeks, part time	 $75 [2] 50 [2]
University of Wisconsin Medical School, 418 North Randall Street, Madison, Wisconsin	Dermatology for Specialists [4]	Arranged. 2 to 6 months	per month 100
DIABETES			
Tufts Medical School Postgraduate Division, 30 Bennet Street, Boston 11, Massachusetts At: Boston Dispensary and Pratt Diagnostic Hospital, Boston	Diabetes	January 15 thr. 20, 1945	30 [1]
Long Island College of Medicine, Medical Society of County of Kings, and Academy of Medicine, Brooklyn At: Jewish Hospital, 555 Prospect Place, Brooklyn, New York	Diabetes	April 17, 1945. 8 Tuesdays	10
Columbia University At: Mount Sinai Hospital, 5th Ave. and 100th St., New York 29, New York	Recent Advances in Diabetes Mellitus and Hyperinsulinism	February 5 thr. 10, 1945. Daily	35
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Diabetes Mellitus, Nephritis and Hypertension	January 4 thr. February 15, 1945 Part time May 21 thr. 25, 1945. Full time	45 45
University of Pennsylvania Graduate School of Medicine, 237 Medical Laboratories, Philadelphia, Pennsylvania At: Philadelphia Hospital, Philadelphia	Diabetes Mellitus	Arranged. 2 to 4 weeks. 75 hours	150
ELECTROCARDIOGRAPHY			
Michael Reese Hospital, 29th St. and Ellis Ave., Chicago 16, Illinois	Electrocardiographic Interpretation	February 14 thr. May 2, 1945 Part time	25
Tufts Medical School Postgraduate Division, 30 Bennet Street, Boston 11, Massachusetts At: Pratt Diagnostic Hospital, Boston	Electrocardiography Advanced Electrocardiography	May 7 thr. 11, 1945 January 22 thr. 24, 1945	25 [1] 25 [1]
Long Island College of Medicine, Medical Society of County of Kings, and Academy of Medicine, Brooklyn At: Jewish Hospital, 555 Prospect Place, Brooklyn, New York	Electrocardiography and Clinical Cardiography Electrocardiography	April 17, 1945 3 times weekly for 5 weeks April 16, 1945 3 times weekly for 5 weeks	20 20
Columbia University At: Montefiore Hospital, 150 East Gun Hill Road, Bronx, New York	Elementary Electrocardiography	June 5 thr. August 7, 1945. Once per week	35
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Electrocardiography	May 14 thr. 18, 1945. Full time	50
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Electrocardiography	Arranged. 20 hours	150
University of Pennsylvania Graduate School of Medicine, 237 Medical Laboratories, Philadelphia, Pennsylvania At: Philadelphia Hospital, Philadelphia	Electrocardiology and Cardiac Roentgenology [4]	Arranged. 5 days, 30 hours	60
ENDOCRINOLOGY **(See also Medicine and Obstetrics and Gynecology)**			
Tufts Medical School Postgraduate Division, 30 Bennet Street, Boston 11, Massachusetts	Endocrinology	May 21 thr. 25, 1945.	25 [1]
Long Island College of Medicine, Medical Society of County of Kings, and Academy of Medicine, Brooklyn At: Jewish Hospital, 555 Prospect Place, Brooklyn, New York	Female Sex Endocrinology	April 9, 1945 Once per week for 10 weeks	15
At: Long Island College Hospital, 340 Henry Street, Brooklyn, New York	Endocrine Diseases and Disorders in Children and Adolescents	April 16, 1945. 8 Mondays	10
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Endocrinology	Arranged. 2 weeks	100
ENDOSCOPY **(See also Bronchoesophagology)**			
Columbia University New York Eye and Ear Infirmary, 218 2d Avenue, New York, New York	Bronchoscopy (Work on Animals) [4]	Arranged. 2 weeks intensive or 2 times a week for 6 weeks	250
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Cystoscopy and Endoscopy	January 3 thr. June 29, 1945 Part time	75
Columbia University At: Columbia Presbyterian Medical Center, 630 West 168th Street, New York, New York	Bronchoscopy [4]	Arranged. January thr. April, 1945 3 weeks	250
University of Pennsylvania Graduate School of Medicine, 237 Medical Laboratories, Philadelphia, Pennsylvania At: Graduate and Presbyterian Hospital, Philadelphia, Pennsylvania	Cystoscopy, Chromoureteroscopy and Pyelography	Arranged. 6 weeks, 36 hours	300
At: University of Pennsylvania Surgical and Anatomical Laboratories, Graduate, University, Philadelphia and Mount Sinai Hospitals, Philadelphia, Pennsylvania	Bronchoesophagology, Gastroscopy and Laryngeal Surgery	Arranged. 2 weeks, 85 hours	250
FRACTURES			
Long Island College of Medicine, Medical Society of County of Kings, and Academy of Medicine, Brooklyn At: Kings County Hospital, 451 Clarkson, Brooklyn, New York	Fractures	April 14, 1945. 10 sessions	10
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York, and Metropolitan Hospital, New York, New York	Fractures and Allied Trauma	Arranged	150
GASTROENTEROLOGY **(See also Proctology, Radiology and Surgery)**			
University of Michigan Medical School, Michigan State Medical Society, Wayne University, Michigan Department of Health At: University of Michigan Hospital, 1313 Ann Street, Ann Arbor, Michigan	Gastroenterology	Spring, 1945. 3 days	15
Long Island College of Medicine, Medical Society of County of Kings, and Academy of Medicine, Brooklyn At: Greenpoint Hospital, Kingsland and Skillman Avenues, Brooklyn, New York	Gastroenterology	April 17, 1945. 2 times weekly for 6 weeks	10
Columbia University At: Columbia Presbyterian Medical Center, 630 West 168th Street, New York, New York	Gastroscopy [4]	January thr. June, 1945. Arranged 2 months, 3 times weekly	200
At: Montefiore Hospital, 150 East Gun Hill Road, Bronx, New York	Clinical Gastroenterology	February 8 thr. April 12, 1945	35
At: Mount Sinai Hospital, 5th Ave. and 100th St., New York 29, New York	Comprehensive Gastroenterology Supplementary Gastroenterology	April 2 thr. June 20, 1945 February 7 thr. March 28, 1945 8 Wednesdays (mornings)	75 35
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Gastroenterology	January 3 thr. February 28, 1945 Part time March 5 thr. 9, 1945. Full time	45 45

References will be found on p. 1111.

Graduate Continuation Courses for Practicing Physicians—Jan. 1, 1945–June 30, 1945—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York (Given also at Metropolitan Hospital, New York, New York)	Gastroenterology	Arranged. 1 month	$100
	Peritoneoscopy	Arranged	100
	Gastroscopy	Arranged. 1 month	100
	Gastrointestinal Surgery	Arranged. 14 sessions	200
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Gastroenterology	January 2 and April 1, 1945 6 weeks, part time	50 [2]
	Proctology and Gastroenterology (also Cadaver Proctology)	January 2 and April 1, 1945 6 weeks, part time	200 [2, 3]
American College of Physicians, 4200 Pine Street, Philadelphia, Pennsylvania At: Graduate Hospital, University of Pennsylvania, Philadelphia, Pennsylvania	Gastrointestinal Diseases	April 23 thr. 28, 1945	Members 20 [2] Nonmembers 40
University of Pennsylvania Graduate School of Medicine, 237 Medical Laboratories, Philadelphia, Pennsylvania At: Graduate Hospital, Philadelphia	Clinical Gastroenterology [4]	Arranged. 16 weeks, 500 hours	400
HEMATOLOGY			
(See also Pathology)			
Tufts Medical School Postgraduate Division, 30 Bennet Street, Boston 11, Massachusetts	Hematology C	Announced. 2 weeks	75 [1]
Long Island College of Medicine, Medical Society of County of Kings, and Academy of Medicine, Brooklyn At: Jewish Hospital, 555 Prospect Place, Brooklyn, New York	Clinical Hematology	April 12, 1945. 8 Thursdays	20
Columbia University At: Mount Sinai Hospital, 5th Ave. and 100th St., New York 29, New York	Advanced Clinical Hematology	February 5 thr. March 29, 1945	50
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Hematology	Arranged. 1 month	100
INDUSTRIAL MEDICINE			
University of Michigan At: University of Michigan School of Public Health, Ann Arbor, Michigan	Industrial Health	Announced. 3 days to 2 weeks	10
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Industrial Medicine	April 2 thr. 6, 1945. Full time	45
LABORATORY			
(See also Bacteriology)			
University of Michigan Medical School, Michigan State Medical Society, Wayne University, Michigan Department of Health At: University of Michigan Hospital, 1313 Ann Street, Ann Arbor, Michigan	Clinical Laboratory Diagnosis	Spring, 1945. 5 days	25
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Practical Laboratory Instruction in Pathology and Bacteriology	Arranged	Arranged
MEDICINE, GENERAL			
(See also Chest Diseases, Electrocardiography, Gastroenterology, Obstetrics and Gynecology, Neurology and Psychiatry and Surgery)			
American College of Surgeons, 43 East Erie Street, Chicago 11, Illinois At: Various cities throughout United States	War Sessions	January 30 thr. April 27, 1945 1 day full time in each city	None
University of Georgia School of Medicine, University Place, Augusta, Georgia At: University Hospital, Augusta, Georgia	General Medicine and Surgery [5]	June, 1945. 1 week	None
University of Kansas School of Medicine, 39th Street and Rainbow Boulevard, Kansas City, Kansas	Review Course in Clinical Medicine	May 1 thr. June 30, 1945 2 weeks to 2 months	Announced
Flint-Goodridge Hospital of Dillard University, 2425 Louisiana Avenue, New Orleans, Louisiana	Annual Postgraduate Course	June, 1945. 2 weeks	5
New Orleans Graduate Medical Assembly, 1430 Tulane Avenue, New Orleans, Louisiana	New Orleans Graduate Medical Assembly	April 9 thr. 12, 1945	12.50 [6]
Tulane University and Commonwealth Fund At: Tulane University, 1430 Tulane Avenue, New Orleans, Louisiana	Diagnosis and Treatment of Neoplasia	April 30 thr. May 4, 1945	25
American College of Physicians, 4200 Pine Street, Philadelphia, Pennsylvania At: Peter Bent Brigham Hospital, Boston Massachusetts (Tentatively)	Special Phases of Internal Medicine	Announced. 2 weeks	Members 40 [2] Nonmembers 80
Tufts Medical School Postgraduate Division, 30 Bennet Street, Boston 11, Massachusetts	Internal Medicine	May 7 thr. June 1, 1945	50 [1]
University of Michigan Medical School, Michigan State Medical Society, Wayne University, Michigan Department of Health At: University of Michigan Hospital, 1313 Ann Street, Ann Arbor, Michigan	Common Problems in Differential Diagnosis	Spring, 1945. 3 days	15
	Recent Advances in Therapeutics	Spring, 1945. 3 days	15
	Personal Courses	Throughout year. Varying lengths	per month 25
At: Nine centers in Michigan	Extramural Courses	Spring, 1945. 1 day per week for 4 weeks	None
Mayo Clinic and Mayo Foundation At: Mayo Clinic, Rochester, Minnesota	Courses for Medical Officers [18]	Arranged. Approximately 3 months	None
State Sanatorium, State Sanatorium, Mississippi	Chest Diseases and Internal Medicine	Arranged. 2 to 6 weeks	None
University of Buffalo School of Medicine, 24 High Street, Buffalo 2, New York	Short Courses in Medicine	Arranged	Arranged
Columbia University At: Mount Sinai Hospital, 5th Ave. and 100th St., New York 29, New York	Normal and Pathological Physiology of Water and Electrolyte Balance	Beginning week of February 5, 1945. 20 hours	30
	Geriatrics—Disease in the Aged	February 5 thr. March 29, 1945	25
	Bedside Clinics in Diseases of the Liver	Arranged. February 7 thr. March 28, 1945. Part time	35
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Diseases of Liver and Biliary Tract	January 3 thr. February 28, 1945. Part time	30
	Diseases of Thyroid and Other Endocrine Glands, and Nutrition	January 5 thr. February 23, 1945 Part time	45
	Psychological Aspects of Internal Medicine	January 5 thr. February 23, 1945. Part time	25
	Problems in Diagnosis	January 8 thr. February 26, 1945. Part time	45
	Symposium on Internal Medicine	June 18 thr. 29, 1945. Full time	5 days 35 10 days 60
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York (Given also at Metropolitan Hospital, New York, New York)	Physical Diagnosis	Arranged. 1 month	150
	Internal Medicine	Arranged. 1 month	150
	Diseases of Liver and Biliary System	Arranged. 1 month	...

References will be found on p. 1111.

Graduate Continuation Courses for Practicing Physicians—Jan. 1, 1945–June 30, 1945—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Course for General Practitioners	Arranged	6 weeks $100 [2, 3] 3 months 150
Duke University, Durham, North Carolina	General Medicine	Arranged. 1 or 2 weeks	None
American College of Physicians, 4200 Pine Street, Philade'phia, Pennsylvania At: Ohio State University College of Medicine, Columbus, Ohio	Clinical Medicine, with Special Emphasis upon Hematologic Viewpoint	April 16 thr. 21, 1945	Members 20 [2] Nonmembers 40
Ohio State Medical Association, 79 East State Street, Columbus At: Columbus, Ohio	General Sessions	May 1, 2, 3, 1945	None
Philadelphia County Medical Society, 301 South 21st Street, Philadelphia 3, Pennsylvania At: Bellevue-Stratford Hotel, Philadelphia	Modern Diagnosis and Treatment (Annual Postgraduate Institute)	April 10 thr. 13, 1945	5 [7, 8]
Texas Tuberculosis Association, 700 Brazos Street, Austin, Texas [9] At: Laredo, Texas	Second Annual International Medical Congress [10]	Latter part of February 1945. To be announced. 2 days	None
At: Prairie View State Normal and Industrial College, Prairie View, Texas	Ninth Annual Post-Graduate Medical Assembly of Negro Physicians in Texas [5]	March 5, 6, 7, 1945	None
Medical College of Virginia, 12th and Marshall Streets, Richmond, Virginia	Saint Philip Hospital Postgraduate Clinic [5]	June 1945. 2 to 5 days	2
University of Wisconsin Medical School, 418 North Randall Street, Madison, Wisconsin	Observation Course in Medical and Surgical Subjects	Arranged. 1 to 5 months per month	100
	Course for Specialists in Internal Medicine [4]	Arranged. 2 to 6 months per month	100
	12 Week Postgraduate Course (in Various Subjects)	Arranged	125
NEUROLOGY AND PSYCHIATRY **(See also Medicine and Ophthalmology)**			
Catholic University of America, Washington, D. C.	Analytic Therapy	January-June 1945. 1 semester per semester hour	10
	Clinical Psychiatry	January-June 1945. 1 semester per semester hour	10
	Electric Shock Therapy	January-June 1945. 1 semester per semester hour	10
	Neurology and Neuropathology	January-June 1945. 1 semester per semester hour	10
Institute for Psychoanalysis, 43 East Ohio Street, Chicago 11, Illinois, and University of Illinois At: Illinois Neuropsychiatric Institute, 912 South Wood Street, Chicago, Illinois	Psychosomatic Medicine	January and March 1945. Tuesdays. 1 quarter	None
University Extension Division, University of Kansas, Lawrence; Kansas Medical Society and Kansas State Board of Health At: Various areas throughout Kansas	Neuro-Psychiatry	April 1945. 2 days, 3 sessions	5
Topeka Institute for Psychoanalysis At: Menninger Clinic, 3617 West 6th Street, Topeka, Kansas	Clinical Conferences (Case Seminar) [11]	January 1 thr. June 30, 1945. Weekly	Arranged
	Psychoanalytic Technic [11]	January 15 thr. March 15, 1945. Bi-weekly	Arranged
Boston Psychoanalytic Institute At: Psychiatry Clinic, 82 Marlborough Street, Boston	Civilian War Neuroses and Their Treatment	January thr. May 1945	None
American Institute for Psychoanalysis, 135 East 63rd Street, New York, New York	Continuous Case Seminar [4]	January 16, 1945. 10 weeks	12.50
	Introductory Lectures on Psychoanalytic Technic [4]	February 5, 1945. 5 weekly lectures	7.50
	Seminar on Dreams [4]	April 9, 1945. 10 weeks	12.50
American Institute for Psychoanalysis and New School for Social Research At: New School for Social Research, 66 West 12th Street, New York, New York	Meaning of Love and Sex [12]	February 9, 1945. 15 weekly lectures	15
Columbia University At: Mount Sinai Hospital, 5th Ave. and 100th St., New York 29, New York	Recent Advances in Neurology and Psychiatry	March 5 thr. 9, 1945	30
At: Neurological and Psychiatric Institute, 706 West 168th Street, New York 32, New York	Trimester in Neurology and Psychiatry [4]	Arranged. 2 months part time or full time	2 months full time 250
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Neurological and Psychiatric Diagnosis and Treatment in General Practice	April 9 thr. 13, 1945. Full time	45
	Neurology and Psychiatry in Childhood	April 16 thr. 21, 1945. Full time	50
	Psychoanalysis in General Practice	January 3 thr. March 28, 1945. 13 sessions part time	50
	Clinical Neurology	January, February, March and May 1945. 1 month or longer. Part time	per month 60
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Child Psychiatry	Spring 1945. 12 lectures	25
	Introduction to Psychoanalysis	Arranged. 10 lectures	20
	Psychoanalysis and Psychiatry	Arranged. 15 sessions	30
	Readings in Psychoanalytic Literature	Arranged. 15 sessions	30
	Seminar in Psychosomatic Medicine	Arranged. 12 sessions	25
	Introduction to Rorschach Technic of Personality Diagnosis	Spring Semester 1945. 10 lectures	25
(Given also at Metropolitan Hospital, New York, New York)	Neurology	Arranged. 1 month full time	200
New York Psychoanalytic Institute and New York Psychoanalytic Society At: New York Psychoanalytic Institute, 245 East 82d Street, New York, New York	Clinical Conferences, Advanced [4]	January 26 thr. June 1, 1945. 18 sessions	25
Philadelphia Psychoanalytic Institute, Philadelphia, Pennsylvania At: Bellevue-Stratford Hotel, Philadelphia, Pennsylvania	Psychopathology of Childhood	January thr. April 10, 1945. 1½ hour sessions	9
	Development of the Mind in the Child	January thr. March 20, 1945. 1½ hour sessions	7.50
	Colloquium on Problems in Psychosomatic Medicine	Arranged	Arranged
	Pediatric Psychiatry	Arranged	Arranged
	Seminar on Psychoanalytic Psychiatry	Arranged	Arranged
University of Pennsylvania Graduate School of Medicine, 237 Medical Laboratories, Philadelphia, Pennsylvania At: University of Pennsylvania Medical Laboratory, Graduate, University, Philadelphia and Pennsylvania Hospitals and Pennsylvania Institute, Philadelphia	Clinicobiologic Neurology and Psychiatry [13]	Arranged. 10 weeks, 250 hours	100
At: Philadelphia Hospital, Philadelphia	Clinical Psychiatry	Arranged. 8 weeks, 240 hours	160
American College of Physicians, 4200 Pine Street, Philadelphia, Pennsylvania At: University of Wisconsin Medical School (Tentatively)	Applications of Psychiatry to Practice of Internal Medicine	Announced. 1 week	Members 20 [2] Nonmembers 40
University of Wisconsin Medical School, 418 North Randall Street, Madison, Wisconsin	Course in Neuro-Psychiatry for Specialists [4]	Arranged. 2 to 6 months per month	100

References will be found on p. 1111.

Graduate Continuation Courses for Practicing Physicians—Jan. 1, 1945–June 30, 1945—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
NEUROSURGERY			
University of Wisconsin Medical School, 418 North Randall Street, Madison, Wisconsin	Neurosurgery for Specialists [4]	Arranged. 2 to 6 months	per month 100
NUTRITION			
(See also Medicine)			
Tulane University and Commonwealth Fund At: Tulane University, 1430 Tulane Avenue, New Orleans, Louisiana	Metabolic and Nutritional Disturbances	February 5 thr. 10, 1945	25
OBSTETRICS AND GYNECOLOGY			
(See also Medicine, Pathology and Surgery)			
University of Illinois College of Medicine, 1853 West Polk Street, Chicago 12, Illinois	Obstetrics and Gynecology	Throughout 1945. 2 weeks	10 [14]
	Combined Obstetric and Pediatric Refresher Course (Some Gynecology may be substituted)	April 1945. 1 week	10
Tulane University, Commonwealth Fund and Mississippi State Board of Health At: Tulane University, 1430 Tulane Avenue, New Orleans, Louisiana	Obstetrics and Gynecology	January 15 thr. 19, 1945	25
Harvard Medical School Courses for Graduates, 25 Shattuck Street, Boston 15, Massachusetts At: Free Hospital for Women, Boston	Gynecology [15]	June 1 thr. 30, 1945	75
At: Boston Lying-In Hospital, Boston	Clinical Obstetrics	Given monthly. 1 month daily	125
Columbia University At: Margaret Hague Maternity Hospital, 88 Clifton Place, Jersey City, New Jersey	Observation Course in Obstetrics	First of any month. 1 month	100
	Practical Course in Obstetrics	First of any month. 3 months full time	350 [16]
Long Island College of Medicine, Medical Society of County of Kings and Academy of Medicine, Brooklyn At: Israel Zion Hospital, 4802 10th Avenue, Brooklyn, New York	Gynecological Pathology	April 3, 1945. 16 sessions	50
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Diagnosis and Office Treatment	January 2 thr. June 29, 1945. Arranged, part time	40-60
	Gynecological Endocrinology	January 2 thr. June 30, 1945 2 months part time	100
	Seminar in Gynecology	January 2 thr. February 28 and April 2 through May 31, 1945. 1 or 2 months full time	1 month 125 2 months 225
	Symposium on Recent Advances in Gynecology	March 19 thr. 24 and June 4 thr. 9, 1945. Full time	50
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Obstetrics and Gynecology	April 1, 1945. 2 months full time	250 [2, 3]
Pennsylvania Hospital At: Philadelphia Lying-In Hospital, 8th and Spruce Streets, Philadelphia, Pennsylvania	Graduate Medical Course in Caudal Analgesia	Weekly. 1 week	50
Woman's Medical College of Pennsylvania, Henry Avenue and Abbottsford Road, Philadelphia 29, Pennsylvania	Diagnosis and Treatment of Gynecology	June 1945. Arranged	Arranged
	Practical Obstetrics	Arranged	Arranged
Meharry Medical College, 1005 18th Avenue North at Heffernan Street, Nashville 8, Tennessee	Gynecological Diagnosis and Office Treatment [5]	March 19 thr. 24, 1945	5
Tennessee State Medical Association, Committee on Postgraduate Instruction in Surgical Diagnosis, 4 University Center Building, Memphis, Tennessee At: Various areas throughout Tennessee	Gynecology-Endocrinology, Irradiation and Medical Gynecology	January 15 to March 19, 1945, March 26 to June 4, 1945 and June 18 to August 20, 1945	10 Negroes interns 3.50 2.50
University of Wisconsin Medical School, 418 North Randall Street, Madison, Wisconsin	Obstetrics and Gynecology for Specialists [4]	Arranged. 2 to 6 months	per month 100
OPHTHALMOLOGY			
(See also Medicine and Otorhinolaryngology)			
Research Study Club of Los Angeles, 727 West 7th Street, Los Angeles, California At: Elk's Club, Los Angeles, California	Annual Mid-Winter Postgraduate Course in Ophthalmology and Otolaryngology	January 22 thr. February 2, 1945	50 [2]
University of Illinois At: Illinois Eye and Ear Infirmary, 904 West Adams Street, Chicago 6, Illinois	Gonioscopy [5]	Announced. 2 days	50
Children's Memorial Hospital, 707 Fullerton Avenue, Chicago 4, Illinois	Neuromuscular Anomalies of the Eye [4]	May 1945, announced. 6 days	55
Tufts Medical School Postgraduate Division, 30 Bennet Street, Boston 11, Massachusetts At: Boston City Hospital, Boston	Ophthalmology	Monthly. 3 times per week, mornings	50 [1]
University of Michigan Medical School, Michigan State Medical Society, Wayne University, Michigan Department of Health At: University of Michigan Hospital, 1313 Ann Street, Ann Arbor, Michigan	Ophthalmology and Otolaryngology [4]	Spring 1945. 1 week	25
Columbia University At: Mount Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Advanced Ophthalmoscopy [4]	February 5 thr. April 23, 1945	25
	Embryology of the Eye [4]	February 6 thr. March 27, 1945	35
	Ophthalmic Neurology	February 9 thr. March 30, 1945 Part time	25
Columbia University At: New York Eye and Ear Infirmary, 218 2d Avenue, New York 3, New York	Anatomy and Physiology [4]	Arranged. 1 month	40
	Bacteriology, Serology and Immunology [4]	Arranged. 1 month	40
	Embryology [4]	Arranged. 1 month	40
	External Eye Diseases (Ocular Therapy) [4]	Arranged. 1 month	40
	Glaucoma Clinic [4]	Arranged. 10 hours	40
	Histopathology [4]	Arranged. 3 months	85
	Motor Anomalies and Orthoptics [4]	Arranged. 1 month	40
	Neuro-Ophthalmology [4]	Arranged. 1 month	30
	Operative Eye Surgery (Cadaver) [4]	Arranged. 1 month	75
	Ophthalmoscopy [4]	Arranged. 1 month	40
	Optics [4]	Arranged. 2 months	75
	Orthoptics [4]	Arranged. 1 month	40
	Perimetry [4]	Arranged. 1 month	40
	Plastic Surgery [4]	Arranged. 13 hours	75
	Refraction [4]	Arranged. 3 months	100
	Slit Lamp Microscopy [4]	Arranged. 1 month	50

References will be found on p. 1111.

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Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Embryology, Histology and Pathology of the Eye [4]	January 2 thr. June 30, 1945. 15 sessions, arranged. Part time	75
	Ophthalmic Neurology [4]	February 26 thr. March 2, 1945. Part time	45
	Slit Lamp Diagnosis [4]	February 26 thr. March 2, 1945. Part time	45
	Motor Anomalies of the Eye [4]	March 5 thr. 10, 1945. Full time	60
	Anomalies of Ocular Muscles [4]	March 12 thr. 16, 1945. Full time	50
	Surgery of the Eye [4]	March 19 thr. 24, 1945. Full time	75
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Ophthalmology	January 2 and April 1, 1945. 6 weeks part time	50 [2]
	Ophthalmology (Also Cadaver and Refraction)	January 2 and April 1, 1945. 3 months part time	275 [2, 3]
	Otolaryngology and Ophthalmology (Also Cadaver)	January 2 and April 1, 1945. 3 months full time	600 [2, 3]
	Refraction	January 2 and April 1, 1945. 6 weeks part time	100 [2, 3]
University of Wisconsin Medical School, 418 North Randall Street, Madison, Wisconsin	Ophthalmology for specialists [4]	Arranged. 2 to 6 months per month	100
ORTHOPEDIC SURGERY			
(See also Anatomy)			
State University of Iowa, Iowa City, Iowa	Orthopedic Surgery	Arranged. 1 year	110
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Seminar in Orthopedic Surgery [4]	January 29 thr. February 9, 1945. Full time	90
	Orthopedics in General Practice	April 30 thr. May 5, 1945. Full time	30
	Functional Anatomy in Relation to Orthopedics	May 7 thr. June 7, 1945. 20 hours	60
University of Wisconsin Medical School, 418 North Randall Street, Madison, Wisconsin	Orthopedics for Specialists [4]	Arranged. 2 to 6 months per month	100
OTOLOGY			
Columbia University At: New York Eye and Ear Infirmary, 218 2d Avenue, New York 3, New York	Anatomy of the Temporal Bone [4]	Arranged. 1 month	45
	Clinical Otology [4]	Arranged. 1 month	40
	Operative Ear Surgery [4]	Arranged. 1 month	110
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Surgical Anatomy as Applied to Otology [4]	Arranged. Arranged, part time per hour	10
University of Pennsylvania Graduate School of Medicine, 237 Medical Laboratories, Philadelphia, Pennsylvania At: University of Pennsylvania Anatomical Laboratory, Philadelphia, Pennsylvania	Otologic (Cadaver) Operations	Arranged. 2 weeks, 20 hours	100
OTORHINOLARYNGOLOGY			
(See also Anatomy)			
Research Study Club of Los Angeles, 727 West 7th Street, Los Angeles, California At: Elk's Club, Los Angeles, California	Annual Mid-Winter Postgraduate Course in Ophthalmology and Otolaryngology	January 22 thr. February 2, 1945	50 [2]
University of Illinois College of Medicine, 1853 West Polk Street, Chicago 12, Illinois	Refresher Course in Otolaryngology for Specialists [4]	March 1945. 1 week	50
Indiana University Medical Center, 1040-1232 West Michigan Street, Indianapolis 7, Indiana	Anatomical and Clinical Course in Otolaryngology [4]	April 16, 1945. 2 weeks	150
Tufts Medical School Postgraduate Division, 30 Bennet Street, Boston 11, Massachusetts At: Boston Dispensary, Boston, Massachusetts	Otolaryngology	Monthly. 3 or 5 mornings per week	30-50 [1]
University of Michigan Medical School, Michigan State Medical Society, Wayne University, Michigan Department of Health At: University of Michigan Hospital, 1313 Ann Street, Ann Arbor, Michigan	Ophthalmology and Otolaryngology [4]	Spring 1945. 1 week	25
Columbia Univerity At: New York Eye and Ear Infirmary, 218 2d Avenue, New York 3, New York	Operative Ear Surgery, Nasal Sinuses (Cadaver) [4]	Arranged. 1 month	110
	X-ray [4]	Arranged. 6 hours	25
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Diagnostic Procedures in Otolaryngology	Arranged, part time. January thr. June 29, 1945	40-60
	Embryology, Histology and Pathology of Ear, Nose and Throat [4]	Arranged, part time, 15 sessions January 2 thr. June 30, 1945	75
	Surgical Anatomy as Applied to Rhinology and Laryngology [4]	Arranged. Part time per hour	10
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Otolaryngologic Procedures	Arranged. 1 month	100
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Otolaryngology (Ear, Nose and Throat)	January 2 and April 1, 1945. 6 weeks part time	75 [2]
	Otolaryngology (Eye, Ear, Nose and Throat)	January 2 and April 1, 1945 6 weeks full time	100 [2]
	Otolaryngology and Ophthalmology (Also Cadaver)	January 2 and April 1, 1945 3 months full time	600 [2, 3]
University of Wisconsin Medical School, 418 North Randall Street, Madison, Wisconsin	Otorhinology for Specialists [4]	Arranged. 2 to 6 months per month	100
PATHOLOGY			
(See also Laboratory, Medicine, Obstetrics and Gynecology, Ophthalmology and Otorhinolaryngology)			
Columbia University At: Mount Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Surgical Pathology	Beginning in March 1945. 30 hours	100
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Pathological Physiology: Functional and Chemical Aspects	January 3 thr. February 28, 1945. Part time	30
	Gynecological Pathology [4]	January 9 thr. February 15, 1945 Part time	75
	Pathology of Blood and Blood Forming Organs	March 2 thr. 28, 1945. Part time	75
	Surgical Pathology	March 6 thr. June 15, 1945. Part time	150
	Gross and Microscopic Pathology	April 16, thr. May 28, 1945 Part time	75
	Pathological Physiology: Functional and Chemical Aspects	April 16 thr. 20, 1945. Full time	45
PEDIATRICS			
(See also Cardiovascular Diseases, Dermatology and Syphilology, Endocrinology, Medicine, Neurology and Psychiatry and Obstetrics and Gynecology)			
Tufts Medical School Postgraduate Division, 30 Bennet Street, Boston 11, Massachusetts At: Boston Floating Hospital and Boston Dispensary, Boston, Massachusetts	Pediatrics	January 2 thr. 26, 1945	55 [1]

References will be found on p. 1111.

Graduate Continuation Courses for Practicing Physicians—Jan. 1, 1945–June 30, 1945—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
University of Michigan Medical School, Michigan State Medical Society, Wayne University, Michigan Department of Health At: University of Michigan Hospital, 1313 Ann Street, Ann Arbor, Michigan	Recent Advances in Care and Treatment of Children	Spring 1945. 3 days	15
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Symposium on Recent Advances in Pediatrics	April 23 thr. 28 and June 4 thr. 9, 1945. Full time	50
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York (Given also at Metropolitan Hospital, New York, New York)	Clinical Pediatrics	Arranged. 1 month	150
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Pediatrics	Arranged. 4 weeks part time	50 [2]
William Buchanan Foundation At: Children's Hospital and University of Texas Medical Branch, Galveston, Texas	Pediatric Conference	March 30 and 31, 1945	None
University of Wisconsin Medical School, 418 North Randall Street, Madison, Wisconsin	Course in Pediatrics for Specialists [4]	Arranged. 2 to 6 months	per month 100
PHYSICAL MEDICINE			
Northwestern University Medical School, 303 East Chicago Avenue, Chicago 11, Illinois	Physical Medicine	Arranged. 1 month	None
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Physical Therapy	April 23 thr. 27, 1945. Full time	45
	Practical Instruction in Physical Therapy as Applied to Diseases of the Skin	Arranged. 6 weeks or 3 months. Part time	50-85
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	General Course in Physical Therapy	Arranged. 4 weeks part time	100 [2, 3]
University of Texas, Galveston, Texas At: Randall Hall, John Sealy Hospital, Galveston, Texas	Physical Medicine Conference	Announced. 2 days	None
University of Wisconsin Medical School, 418 North Randall Street, Madison, Wisconsin	Physical Medicine for Specialists [4]	Arranged. 2 to 6 months	per month 100
POLIOMYELITIS			
Postgraduate School of Physical Therapy, Warm Springs Foundation At: Georgia Warm Springs Foundation, Warm Springs, Georgia	Treatment of Acute and Convalescent Poliomyelitis	First Monday of each month. 5 consecutive days	None
University Extension Division, University of Kansas, Lawrence, Kansas; Kansas Medical Society and Kansas State Board of Health At: Various areas throughout Kansas	Poliomyelitis	February 1945. 2 days, 3 sessions	5
PROCTOLOGY (See also Gastroenterology)			
Tufts Medical School Postgraduate Division, 30 Bennet Street, Boston 11, Massachusetts	Proctology I	April 23 thr. 28, 1945	25 [1]
	Proctology II	April 30 thr. May 25, 1945. 2 to 4 weeks	50-100 [1]
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Surgical Anatomy as Applied to Colon and Rectal Surgery [4]	Arranged. January thr. June 1945 12 hours part time	100
Long Island College of Medicine, Medical Society of County of Kings and Academy of Medicine, Brooklyn At: Jewish Hospital, 555 Prospect Street, Brooklyn, New York	Proctology	April 16, 1945. Twice a week for 4 weeks	25
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York (Given also at Metropolitan Hospital, New York, New York)	Proctology	Arranged. 2 months	75
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Proctology	January 2 and April 1, 1945. 6 weeks part time	75 [2]
	Proctology and Gastroenterology (Also Cadaver Proctology)	January 2 and April 1, 1945. 6 weeks part time	200 [2, 3]
PUBLIC HEALTH (See also Medicine)			
University of Michigan School of Public Health, Ann Arbor, Michigan	Evaluation Public Health Procedures [4]	March 1945. 3 to 5 days	10
	Public Health Economics	Announced. 3 days to 2 weeks	10
University of North Carolina School of Public Health, Chapel Hill, North Carolina	Public Health and Related Fields	Arranged. 1 to 3 quarters	per quarter 100
RADIOLOGY (See also Cardiovascular Diseases, Chest Diseases, Electrocardiography and Otorhinolaryngology)			
Harvard Medical School Courses for Graduates, 25 Shattuck Street, Boston 15, Massachusetts At: Boston City Hospital	General Roentgenology	Monthly. 1 month, mornings	50
At: Peter Bent Brigham Hospital	General Roentgenology	Monthly. 1 month, daily	100
Tufts Medical School Postgraduate Division, 30 Bennet Street, Boston 11, Massachusetts At: Pratt Diagnostic Hospital, Boston, Massachusetts	Radiology	January 8 thr. 11, 1945	30 [1]
University of Michigan Medical School, Michigan State Medical Society, Wayne University, Michigan Department of Health At: University of Michigan Hospital, 1313 Ann Street, Ann Arbor, Michigan	Diagnostic Roentgenology	Spring 1945. 5 days	25
Missouri Tuberculosis Association, 411 North 10th Street, St. Louis, Missouri; Missouri Trudeau Society and Tuberculosis Committee of Missouri State Medical Association At: Centrally located towns throughout Missouri	Refresher Course, X-ray Conference	Various. 1 evening	None
Columbia University At: Columbia Presbyterian Medical Center, 630 West 168th Street, New York, New York	Radiological Physics [4]	January 10 thr. May 2, 1945	50
At: Montefiore Hospital, East Gun Hill Road, Bronx, New York	Roentgenology of the Gastrointestinal Tract	March 9 thr. April 27, 1945.	35
	Elementary Cardiovascular Roentgenology	June 4 thr. August 7, 1945	35
At: Mount Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Recent Advances in Radiology [4]	February 26 thr. March 2, 1945	40
Long Island College of Medicine, Medical Society of County of Kings and Academy of Medicine, Brooklyn At: Jewish Hospital, 555 Prospect Street, Brooklyn, New York	Cardiovascular Roentgenology	April 12, 1945. 8 sessions	10
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Radiology	Arranged	150
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Diagnostic Roentgenology and Radiotherapy (Advanced)	First of any month. 6 weeks or 3 months. Full time	150-300 [2, 3]

References will be found on p. 1111.

Graduate Continuation Courses for Practicing Physicians—Jan. 1, 1945–June 30, 1945—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
SURGERY			
(See also Anatomy, Chest Diseases, Gastroenterology, Medicine, Ophthalmology, Otology, Otorhinolaryngology, Pathology and Proctology)			
American College of Surgeons, 43 East Erie Street, Chicago 11, Illinois At: Various cities throughout United States	War Sessions	January 30 thr. April 27, 1945 1 day full time in each city	None
Research Study Club of Los Angeles, 727 West 7th Street, Los Angeles, California At: University of California North Broadway Clinic, San Francisco, California	Applied Anatomy and Cadaver Surgery of Head and Neck	February 2 thr. 6, 1945	50 [2]
University of Georgia School of Medicine, University Place, Augusta, Georgia At: University Hospital, Augusta, Georgia	General Medicine and Surgery [5]	June 1945. 1 week	None
Mayo Clinic and Mayo Foundation At: Mayo Clinic, Rochester, Minnesota	Courses for Medical Officers [18]	Arranged. Approximately 3 months	None
University of Buffalo School of Medicine, 24 High Street, Buffalo 2, New York	Short Courses in Surgery	Arranged	Arranged
Columbia University At: Mount Sinai, New York Postgraduate, Presbyterian and Roosevelt Hospitals, New York, New York	Symposium on General Surgery [4]	May 14 thr. 18, 1945. Full time	75
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Dissection and Surgical Anatomy [4]	Arranged. January thr. June, 1945. 24 hours part time	150
	Surgical Anatomy as Applied to Thoracic Surgery [4]	Arranged. January thr. June 1945. 12 sessions part time	200
	Surgery of the Gastrointestinal Tract [4]	January 3 thr. March 28, 1945. 13 sessions part time	200
	Seminar in Traumatic Surgery [4]	March 5 thr. 16, 1945. Full time	90
	Diagnosis and Treatment of Trauma	May 7 thr. 12, 1945. Full time	50
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Surgical Technic	Arranged. 75 hours	375
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Combined Surgical Course (Also Cadaver Surgery and Gynecology)	January 2 and April 1, 1945 3 months full time	350 [2, 8]
	Surgical Operative Clinic and Lecture Course	January 2 and April 1, 1945. 6 weeks full time	100 [2]
University of Wisconsin Medical School, 418 North Randall Street, Madison, Wisconsin	Surgery Course for Specialists [4]	Arranged. 2 to 6 months per month	100
At: Wisconsin General Hospital, Madison	Observation Course in Medical and Surgical Subjects	Arranged. 1 to 5 months per month	100
THERAPEUTICS			
(See also Medicine)			
Tulane University and Commonwealth Fund At: Tulane University, 1430 Tulane Avenue, New Orleans, Louisiana	Recent Advances in Therapy	March 5 thr. 10, 1945	25
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Physiological Principles of Therapeutics	April 30 thr. May 4, 1945. Full time	45
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Therapeutics	Arranged. 1 month	100
TROPICAL MEDICINE			
Tulane University and Commonwealth Fund At: Tulane University, 1430 Tulane Ave., New Orleans, La.	Tropical Medicine and Parasitology	January 15 thr. 27, 1945 and April 16 thr. 28, 1945	50
Columbia University At: DeLamar Institute of Public Health, 600 West 168th Street, New York 32, New York	Tropical Medicine	March-May 1945. 8 weeks full time	100
University of Texas Medical Branch, Galveston, Texas	Symposium on Tropical Diseases	Announced. 2 days	None
UROLOGY			
(See also Anatomy)			
Tulane University and Commonwealth Fund At: Tulane University, 1430 Tulane Ave., New Orleans, La.	Genitourinary Diseases	May 7 thr. 11, 1945	25
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Recent Advances in Urology	Feb. 26 thr. March 3, 1945, May 21 thr. 26, 1945. Full time	60
	Urological Diagnosis in General Practice	January 8 thr. 26, 1945 and April 30 thr. May 18, 1945. Part time	40
Long Island College of Medicine, Medical Society of County of Kings and Academy of Medicine, Brooklyn At: Long Island College Hospital, 340 Henry Street, Brooklyn	Urology	First of each month. 1 month or longer per month	25
Woman's Medical College of Pennsylvania, Henry Avenue and Abbottsford Road, Philadelphia 29, Pennsylvania	Female Urology	Arranged. 16 weeks, 3 hours per week	100
University of Wisconsin Medical School, 418 North Randall Street, Madison, Wisconsin	Course in Urology for Specialists [4]	Arranged. 2 to 6 months per month	100
VENEREAL DISEASE CONTROL			
(See also Dermatology and Syphilology)			
Bureau of Social Hygiene, New York City Department of Health, 125 Worth Street, New York, New York	Postgraduate Course in Venereal Disease [17]	February, March and April 1945. 10 weeks	None
University of Pennsylvania At: Institute for Control of Syphilis, 3400 Spruce Street, Philadelphia, Pennsylvania	Three Month Course in Applied Venereal Disease Epidemiology	March 1945. 3 months	Arranged
	Ten Day Intensive Training Course in Venereal Disease Control	Arranged. 10 days	25
	Three Week Venereal Disease Review Course	Arranged. 3 weeks	35
	Four Week Intensive Review Course	Arranged. 4 weeks	50
	Six Month Essential Basic Training Course	Arranged. 6 months	125

1. Fellowships for physicians practicing in Maine and who are members of Maine Medical Association.
2. Free or special fee to physicians in service.
3. Grants may be made from scholarship fund.
4. Specialists only.
5. For Negro physicians.
6. Including luncheons.
7. Fee for non-member physicians.
8. Senior medical students and interns free.
9. Additional sponsoring agencies: Texas State Health Department, Texas State Medical Association, Lone Star State Medical, Dental and Pharmaceutical Association, Prairie View State College, National Tuberculosis Association, Pan American Sanitary Bureau, U.S.P.H.S., and Southwest Texas District Medical Association.
10. Also for Latin American physicians.
11. Restricted to physician candidates of Topeka Institute for Psychoanalysis.
12. Laymen also admitted.
13. For staff members of mental institutions.
14. Illinois physicians free.
15. Women not admitted.
16. Maintenance supplied.
17. For licensed physicians in New York.
18. Civilian physicians also admitted.

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

BOARDS OF MEDICAL EXAMINERS
BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Examinations of the boards of medical examiners and board of examiners in the basic sciences were published in THE JOURNAL, December 16, page 1049.

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: Part III. New York, Jan. 8-10 and Boston, Jan. 23-25. Exec. Sec., Mr. E. S. Elwood, 225 S. 15th St., Philadelphia.

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF DERMATOLOGY AND SYPHILOLOGY: New York, June 8-9. Final date for filing application is March 12. Sec., Dr. George M. Lewis, 66 E. 66th St., New York 21.

AMERICAN BOARD OF NEUROLOGICAL SURGERY: Spring. Final date for filing application is Feb. 1. Sec., Dr. Paul C. Bucy, 912 S. Wood St., Chicago 12.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: *Written. Part I.* Various centers, Feb. 3. Sec., Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh 6.

AMERICAN BOARD OF OPHTHALMOLOGY: New York, June 13-16; Chicago, Oct. 3-6. Final date for filing application is Jan. 1. Sec., Dr. S. Judd Beach, 56 Ivie Road, Cape Cottage, Maine.

AMERICAN BOARD OF OTOLARYNGOLOGY: New York, June 5-8. Final date for filing application is March 1. Chicago, Oct. 3-6. Sec., Dr. Dean M. Lierle, University Hospital, Iowa City, Ia.

AMERICAN BOARD OF PEDIATRICS: Chicago, May 19-20. Final date for filing application is Jan. 19. Sec., Dr. C. A. Aldrich, 115½ First Ave., S.W., Rochester, Minn.

AMERICAN BOARD OF RADIOLOGY: *Oral.* New York, June 3. Final date for filing application is May 1. Sec., Dr. B. R. Kirklin, 102-110 Second Ave. S.W., Rochester, Minn.

AMERICAN BOARD OF UROLOGY: *Oral.* Chicago, Feb. 19-22. Sec., Dr. G. J. Thomas, 1409 Willow St., Minneapolis 4.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Workmen's Compensation Acts: Hydrocele Allegedly Resulting from Blow to Leg.—In the course of his employment on Sept. 8, 1939 Chambers was struck on the right leg below the knee by a heavy iron beam. He was given first aid and continued working. A few days later his leg became infected and on September 18 he was sent to a physician, who then observed an infected area about an inch or an inch and a half wide and 3 inches long. The workman was in bed for a week thereafter, did not return to work for another week and, so far as the infected leg was concerned, was thereafter able to work. The infected leg, however, did not heal and treatments by his attending physician were continued. Finally sulfanilamide was administered internally, and the infection cleared up sometime in January 1940. The employer's insurance carrier paid the workman compensation under the workmen's compensation act of Nebraska for two weeks and paid Chambers' physician for the services he had rendered up to that time. Sometime later a hydrocele developed "on the left side" and he instituted proceedings under the Nebraska Workmen's Compensation Act, claiming the hydrocele resulted from the blow. The lower tribunals denied him recovery and he then appealed to the Supreme Court of Nebraska.

The sole question to be determined, said the Supreme Court, is whether or not the evidence adduced in the lower courts was sufficient to show a causal relation between the injury to the right leg suffered in the course of employment and the subsequent hydrocele that developed in the region of the left testicle. In arriving at a determination as to the presence or nonpresence of such a causal relation the following rules of law must be kept in mind: first, the burden of proof is on the claimant to establish by a preponderance of the evidence that the personal injury sustained was sustained from an accident arising out of and in the course of employment; secondly, a compensation award cannot be based on possibilities or probabilities but must be based on sufficient evidence that the claimant incurred a disability arising out of and in the course of his employment. The court then went on to test the evidence adduced before the lower courts in the light of the rules of law just stated. The plaintiff, the court continued, testified that the hydrocele first appeared three days after he "went to bed" Sept. 18, 1939, about two weeks after the industrial accident; that he called it to his physician's attention; that the physician first treated it from four to six weeks after it appeared; that since that time it has been drained once every six to eight weeks, and that he has never had any venereal disease and no infection in his system other than that resulting from the leg injury. The workman's physician, a general practitioner, testified that the workman had a severe traumatic ulceration at the point of the bruise caused by the industrial accident; that his patient's leg was swollen to the groin, and that there was a glandular involvement on both sides. This physician did not fix a time when the hydrocele appeared but stated that it "was probably developing" on Sept. 21, 1939 but that he was not sure it was a hydrocele for two or three weeks thereafter. The physician believed that the industrial accident caused the injury, which was followed by infection; that the infection spread to the groin, finally reaching the left testicle and settled there, causing the hydrocele, and that there was a direct causal connection between the wound and the hydrocele. He admitted, however, that he had never encountered in his practice, nor had he read of, a similar result from such an infection. On behalf of the employer and its insurance carrier "a specialist engaged in both teaching and practice" testified that he had examined the plaintiff; that an infection or trauma of the scrotum or contents or circulatory disturbances might cause an acute hydrocele; that the cause of a chronic hydrocele is not known; that he had never heard nor read of a chronic hydrocele being caused by a leg infection, such as the workman in this case had; that an infection from the right leg might "by a wild stretch of the imagination" involve the right testicle, but that he had never seen nor heard of such a case, and that had such a case occurred it would have been reported in the medical literature. He gave it as his opinion that the hydrocele was purely "coincidental" and that there was no connection between the industrial accident in this case and the hydrocele.

The following facts, continued the court, must be considered in this connection. The workman's physician, while having definite knowledge of the hydrocele a few weeks after the infection, made no mention of that fact in his reports to the insurance carrier submitted during the period of treatment for the leg. While he testified that he was treating the hydrocele during that period he made no charge for that treatment, as such, during the period from September 1939 to January 1940. His bill for services submitted to the carrier and paid by it stated that it was for services to the infected leg. While he testified that he prescribed the use of a suspensory, the bill of drugs submitted to and paid by the insurance carrier made no mention of that device. The physician prepared a second statement for services rendered from March 1940 to May 31, 1941. The testimony shows that while there was an aspiration performed on March 11, 1940 it was described in the statement rendered to the insurance company as an "office call." The first entry on the charge account which has reference to the hydrocele was made on Oct. 1, 1940. The employer and his insurance carrier were not then notified of the disability, and so far as can be discovered from the record the defendants were not advised of the claim that the hydrocele resulted from the infection until the present court proceedings were instituted.

It further appears, continued the court, from the testimony of both the physician called by the workman and the physician called by the employer and his insurance carrier that the etiology of a chronic hydrocele, such as the workman has, is not known to the medical profession and that there are no cases in medical literature showing that a hydrocele has been caused by an infection such as the workman had. Injuries of this kind with resulting infections occur quite commonly to men. If there was a cause and effect relationship between such an infection and a hydrocele it seems to us that the medical profession would ere now have discovered that fact. The most that can be said, concluded the court, for the evidence adduced by the workman is that it indicates that there might possibly be a connection between the industrial accident and the hydrocele. That is not sufficient to warrant a recovery for the workman.

The court accordingly denied compensation.—*Chambers v. Bilhorn, Bower & Peters, 16 N. W. (2d) 173 (Neb., 1944).*

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1934 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Journal of Clinical Pathology, Baltimore

14:425-460 (Aug.) 1944

Advocatus Diaboli. W. S. Thomas.—p. 425.
Further Observations on Rh Agglutinogen: Studies on an Anti-Rh Serum of Unusual Specificity and Occurrence of Same Agglutinin in Breast Milk. R. T. Fisk and A. G. Foord.—p. 431.
Glucose Necessary to Stimulate Insulin Production. J. S. Sweeney, J. W. Tunnell and Rose Tunnel.—p. 437.
Carcinoma of Appendix. B. Chomet.—p. 447.

American J. Digestive Diseases, Fort Wayne, Ind.

11:305-344 (Oct.) 1944

Physiologic and Clinical Aspects of Ketosis. S. Soskin and R. Levine.—p. 305.
*Differential Diagnosis of Glycosuria. H. J. John.—p. 313.
Prevention of Gastric Ulcer Formation During Alarm Reaction. H. Selye and A. Maclean.—p. 319.
*Salmonella Enterocolitis in Infants and Children. E. R. Neter and Phyllis Clark.—p. 323.
Role of Fat Soluble Vitamins A and D in Nutrition. J. Buckstein.—p. 326.
Changes in Systems Affected by Allergenic Foods. J. A. Turnbull.—p. 329.

Differential Diagnosis of Glycosuria.—John suggests the following test for diagnosis of diabetic glycosuria: After sugar has been discovered in the urine, the patient should eat a heavy carbohydrate lunch at 11:30 a. m. The blood sugar should be determined two and a half hours from this time. About 2 cc. of blood is adequate for this purpose. If the blood sugar is below 120 mg. per hundred cubic centimeters the patient is nondiabetic. If the blood sugar is above 120 he is probably diabetic. If it is well above 120, say 200 or more, a frank diabetes exists. If it is 126 or 136, one needs to go into the problem further and do a glucose tolerance test the next morning. Nondiabetic glycosuria is not a precursor of diabetes. The renal threshold in a nondiabetic glycosuria is usually low. It varies on the ascent and descent of the curve, being higher on the former and lower on the latter. On the finding of glycosuria, a diagnosis should be arrived at within twenty-four hours. This will eliminate the possibility of self-imposed dietary restrictions which distort the glucose tolerance curve (toward the diabetic side) and thus give false information. There is no treatment for nondiabetic glycosuria and none is needed.

Salmonella Enterocolitis in Infants and Children.—Neter and Clark studied 21 bacteriologically proved cases of Salmonella enterocolitis at the Children's Hospital of Buffalo. The ages of the patients ranged from 11 days to 12 years. Eighteen were less than 2 years and 10 less than 3 months of age. One of the cases represents an unusual instance of Salmonella thompson enterocolitis. Eleven cases of enterocolitis were due to Salmonella typhi murium. Several of the patients were admitted because of this condition, while others developed the diarrheal disorder during hospitalization for unrelated illnesses. Added precautions checked the outbreak. In several cases Salmonella enterocolitis developed during or following other diseases, namely meningococcic meningitis, streptococcic bacteremia and bronchopneumonia. Eighteen patients recovered and 3 died. Fourteen of the 21 patients, including 1 who died, were treated with sulfonamides. No definite statement can be made regarding beneficial effects resulting from this treatment. In several instances chemotherapy with sulfonamides, including the use of succinylsulfathiazole, failed to eradicate the paratyphoid bacilli from the intestinal tract.

American Journal of Public Health, New York

34:1049-1132 (Oct.) 1944

Surveys of Nutrition of Populations: 4. The Vitamin D and Calcium Nutrition of Rural Population in Middle Tennessee. J. B. Youmans, E. W. Patton, W. R. Sutton, Ruth Kern and Ruth Steinkamp.—p. 1049.
Early Days of Public Health Education Section. H. E. Kleinschmidt.—p. 1058.
*Rheumatic Fever in Cincinnati in Relation to Rentals, Crowding, Density of Population and Negroes. A. G. Wedum and Bernice G. Wedum.—p. 1065.
Salmonella Isolated in Florida During 1943 with Combined Enrichment Method of Kauffmann. Mildred M. Galton and M. S. Quan.—p. 1071.
*Epidemiologic Study of Lymphogranuloma Venereum, Employing Complement-Fixation Test. P. B. Beeson and E. S. Miller.—p. 1076.
*Serologic Types of Hemolytic Streptococci Isolated from Multiple Cases of Scarlet Fever in Same Households. G. E. Foley, S. M. Wheeler and W. L. Aycock.—p. 1083.
Citrate Gold of Optimal and Reproducible Sensitivity for Use in Colloidal Gold Reaction: Its Preparation and Control. C. Lange and A. H. Harris.—p. 1087.
Backflow Preventer Installations. I. Reichman.—p. 1093.

Rheumatic Fever in Cincinnati.—The Wedums recently completed an investigation of persons hospitalized for rheumatic conditions in Cincinnati for the eleven year period 1930 to 1940. Out of a total of 2,178 cases 583 were subjected to a socioeconomic analysis. Data obtained are recorded in maps showing distribution by city census tracts of cases of rheumatic fever admitted to Cincinnati hospitals during 1930 to 1940 and also the annual incidence of hospitalized rheumatic fever per hundred thousand of population in each census tract in relation to rentals, crowding, density of population and Negro population. The survey emphasizes the importance of poverty and crowding in the genesis of rheumatic fever.

Complement Fixation Test of Lymphogranuloma Venereum.—According to Beeson and Miller immunologic evidence of infection with the virus of lymphogranuloma venereum is frequently encountered in persons who show no sign of the clinical disease. The present report is an analysis of a series of complement fixation tests done on clinic patients at Grady Hospital, Atlanta. Complement fixation tests for lymphogranuloma venereum were done on 879 patients. Approximately 40 per cent of adult Negroes and 12 per cent of adult white persons gave positive reactions. There were only 6 positive reactions among 116 Negro children under the age of 14 years, and only 1 positive reaction among 58 white children in the same age group. A sharp rise in incidence occurred after the age of 14 years. This is believed to be due to acquired venereal infection. The incidence of positive reactions was approximately the same in all age groups beyond the fourth decade. This persistence of an immune reaction in age groups with less sexual contacts suggests that the virus persists in the body, providing continued antigenic stimulus. Comparisons were made in newborn Negro infants and their mothers. It was found that immediately after birth the reaction in the infant's serum is the same as that of the mother. Nine infants who had given positive reactions were retested two to four months later; they had all become negative. A positive test at birth seems due to the passive transfer of antibodies from the mother. The error introduced by the fact that infection with other members of the lymphogranuloma-psittacosis group of viruses will give rise to a positive complement fixation test for lymphogranuloma venereum cannot be assessed. It is not likely that the prevalence of infection by the other agents in this group is sufficient to distort greatly the picture of the prevalence of lymphogranuloma venereum.

Types of Hemolytic Streptococci in Same Household.—During a twenty-six month period throat cultures on 824 of 1,048 scarlet fever admissions to a contagious disease hospital were examined by Foley and his co-workers for hemolytic streptococci. Cultural and serologic data were available for 57.1 per cent of all scarlet fever admissions during this period. Of the cases studied 134 occurred as multiple infections in 55 families. There were seven different serologic types of hemolytic streptococci involved in these 55 households, and, as would be expected, the type isolated from multiple cases in a given household was the same in all instances. Family outbreaks in general probably are single source outbreaks caused by a single serologic type of hemolytic streptococci, whereas scarlet fever in a sizable community appears to be caused by multiple types, perhaps the

result of the introduction of a number of strains from different sources. It may be postulated that endemic scarlet fever is composed of numerous outbreaks occurring in basic units of population such as the family, the whole of which gives the varied type pattern characteristic of the disease in its endemic form. Epidemiology of endemic scarlet fever is complicated by the unavoidable multiplicity of human contacts, but in those circumstances in which the movement of a particular serologic type of hemolytic streptococci can be followed, person to person spread can be demonstrated.

American Journal of Tropical Medicine, Baltimore

24:281-330 (Sept.) 1944

*Serologic Studies of Bullis Fever. H. R. Livesay and M. Pollard. —p. 281.
*Early Filariasis Diagnosis and Clinical Findings: Report of 268 Cases in American Troops. B. G. King.—p. 285.
*Lesions of Lymphatic System in Early Filariasis. W. B. Wartman. —p. 299.
Precipitin Reactions with Antigen Prepared from Microfilariae of Wuchereria Bancrofti: Preliminary Report. J. Oliver-González and Z. T. Bercovitz.—p. 315.
Death Due to Estivoautumnal Malaria: Résumé of 100 Autopsy Cases, 1925-1942. B. H. Kean and J. A. Smith.—p. 317.
Preparation and Properties of Antigens from Plasmodium Knowlesi. Anna Dean Dulaney and D. B. Morrison.—p. 323.
Rearing and Maintenance of Laboratory Colony of Body Louse. G. H. Culpepper.—p. 327.

Serologic Studies of Bullis Fever.—Livesay and Pollard studied Bullis fever for serologic identification or differentiation from some of the known rickettsial diseases. The majority of the cases occurred in a group of men stationed at Camp Bullis, Texas, during a high degree of insect infestation of the area. Two months after the outbreak 261 serums were collected from those who had had Bullis fever. All presented a history of tick and chigger bites, sudden onset of illness, severe headache, lymphadenopathy and leukopenia. Deer, rabbits, raccoons and 1 armadillo from the Camp Bullis area were shot, and serum specimens were collected for examination. Serum specimens were tested for Weil-Felix agglutination reaction and by the complement fixation reaction for endemic typhus, American Q fever and Bullis fever. One hundred and ninety-two human and 50 animal specimens were examined. The Bullis fever antigen was prepared by triturating with sand the enlarged infected spleens of mice and adding approximately 20 per cent by volume sterile isotonic solution of sodium chloride. The specificity of the antigen was supported by the negative reactions with serum from cases of endemic typhus fever, Q fever, Rocky Mountain spotted fever, scrub typhus and normal serums. The positive serologic tests for Bullis fever in 4 of 40 deer and 2 of 7 rabbits might mean that these animals constitute the reservoir species. The authors tabulate 50 random cases all of which gave negative Weil-Felix reactions and were negative for endemic typhus. Two cases were positive for American Q fever. Forty-seven gave positive results for Bullis fever. Of the total number of 192 human specimens 76 per cent gave positive complement fixation for Bullis fever. The authors stress the following points: 1. The Bullis fever syndrome is not characterized by a significant Proteus OX-19, OX-K or OX-2 agglutination reaction. 2. There does not appear to be any serologic relationship between the rickettsia-like agent of Bullis fever and the rickettsia of American Q fever by the complement fixation test. 3. From the results obtained there does appear to be some significant serologic relationship between the agent isolated from a human case of Bullis fever and the serums of convalescent cases.

Early Filariasis in American Troops.—King studied 268 American troops who had lived an average of four months in Pacific islands and who presented symptoms and signs believed to be due to filariasis. Attention was first drawn to the possibility of filariasis by a patient with epididymitis who later developed lymphangitis of one arm. Biopsy of a lymph node of another patient showed adult filariae in the subcapsular sinuses. Similar cases were observed by other investigators among these troops as early as five months after exposure. The earliest onset was three months after arrival at the island. The syndromes observed fall into three categories: lymphangitis of an extremity or of the trunk, acute inflammation of the scrotum or its contents and lymph node enlargement. The relapsing nature of the symptoms was verified. Inflammation of the spermatic cord, epididymis, testicle or scrotum, or a combined involvement of more than one of the intrascrotal structures was the most common lesion observed, occurring in 192 (71.6 per cent) persons. The usual history was one of a painful swelling of the testicle, which may have been intermittent for weeks or months. The search for microfilariae in the blood remained negative even in those in whom biopsies showed adult female filariae in the lymphatic tissues. The diagnosis of filarial infection can be made by three methods: the finding of adult or larval filariae in tissue obtained at biopsy or postmortem examination, the finding of microfilariae in the blood or the finding of calcified worms by x-ray. The diagnosis can be established clinically on the basis of a history of a prolonged stay in an endemic area, lymphangitis of an extremity, the trunk or the genitalia coming on after an interval of at least three months, adenopathy, eosinophilia and a positive intradermal reaction. Syphilis, tuberculosis, Hodgkin's disease and all other causes for lymphadenopathy must be ruled out. Filariasis of the spermatic cord has been mistaken for hernia. The intradermal reactions impress the author as being corroborative evidence of past or present infection with Wuchereria bancrofti. The diagnosis should be supported by clinical evidence.

Lesions of Lymphatic System in Early Filariasis.—Wartman describes the early lesions of acute filarial lymphadenitis and lymphangitis, due presumably to Wuchereria bancrofti. Material was obtained by biopsy on 17 otherwise healthy young white men who had resided in the islands of the Southwest Pacific for four months and were exposed to the bites of mosquitoes harboring the nonperiodic form of Wuchereria bancrofti. The clinical manifestations included acute epididymitis, acute transient retrograde lymphangitis and lymphadenopathy especially of the upper extremities. Intradermal tests were positive in all but 1 case. Microfilariae were not demonstrated in the peripheral blood. Adult male and female filarial worms were found in 5 of the specimens. Both living and dead worms were present, and the females contained in their uteri large numbers of eggs and microfilariae which appeared morphologically mature. No free microfilariae were found in the tissues. Cultures of the biopsies, as well as tissue sections specially stained for bacteria, were negative, indicating that the lesions were due to the worms and not to bacteria. The tissue reactions in the nodes consisted of granulomatous inflammation with hyperplasia of the macrophage (reticuloendothelial) system and tissue eosinophilia. The lymphatic vessels showed reticuloendothelial hyperplasia, lymph thrombi and varying degrees of inflammation with or without thrombosis. It is suggested that the absence of microfilariae from the blood may be due to the avascular nature of the granulomas, the hyperplasia of macrophages and the small numbers of worms found in the specimens. The history of these patients proves that white persons can be infected during short visits to endemic areas and that signs and symptoms of filariasis may develop as early as three months after the first exposure to infected mosquitoes.

Annals of Allergy, Minneapolis

2:365-456 (Sept.-Oct.) 1944

Army Allergy Fourth Service Command 1943. S. W. French and L. J. Halpin.—p. 365.
Allergic Skin Diseases in Navy. M. B. Sulzberger.—p. 380.
Allergic Occupational Dermatitis in Our War Industries. L. Schwartz. —p. 387.
Allergy in Relation to Genitourinary Tract. J. W. Thomas and V. P. Wicksten.—p. 396.
*Clinical Evaluation of Soy Bean Food in Eczema of Child. A. V. Stoesser.—p. 404.
Allergic Problem of Inductee, Soldier and Veteran. H. I. Shahon. —p. 413.
Experimental Approach to Oral Treatment of Food Allergy: I. Chemistry of Food Propeptans. E. Urbach, G. Jaggard and D. W. Crisman.—p. 424.
Allergy in Mexico. M. S. Mallen.—p. 433.

Soy Bean Food in Eczema of Child.—Stoesser states that a soy bean food may produce a beneficial effect in eczema of infants and children both in the milk sensitive and in the multiple food sensitive patients. Not all children can take the soy bean formula. Some refuse it and others have gastrointestinal symptoms indicating a possible allergic reaction. Almost one half of the patients develop a diarrhea, but fortunately in most cases this can be controlled.

Archives of Internal Medicine, Chicago

74:155-234 (Sept.) 1944

*Pneumonitis Associated with Malaria. I. L. Applebaum and J. Shrager. —p. 155.
Clinical Significance of Deeper Anatomic Changes in Lymphoid Diseases. D. Symmers.—p. 163.
Effect of Administration of Digitalis on Coagulability of Human Blood. E. Massie, H. S. Stillerman, C.-S. Wright and Virginia Minnich. —p. 172.
*Use of Fluorescein Method in Establishment of Diagnosis and Prognosis of Peripheral Vascular Diseases. K. Lange and L. J. Boyd. —p. 175.
Hematologic and Genetic Study of Transmission of Thalassemia (Cooley's Anemia: Mediterranean Anemia). W. N. Valentine and J. V. Neel.—p. 185.
Blood: Review of Recent Literature. F. H. Bethell, C. C. Sturgis, O. T. Mallery Jr. and R. W. Rundles.—p. 197.

Pneumonitis Associated with Malaria.—Applebaum and Shrager report studies on 125 consecutive patients with pneumonia associated with malaria admitted to Gorgas Hospital during the seventeen month period from January 1942 through May 1943. The most important group, comprising 70 per cent of the total, consisted of young white men belonging to the military personnel. In this group the incidence of pneumonitis associated with malaria as compared with that of uncomplicated malaria was 3.7 per cent. The disease occurred mainly during the "rainy" season and corresponded in general to the peak of the incidence of malaria and also of pneumonitis. The symptoms, both systemic and respiratory, were similar to the subjective findings of primary pneumonitis. The main objective signs of pneumonitis, such as rales, dulness and diminished breath sounds, were likewise elicited. There was a greater percentage of negative findings and additional manifestations of malaria, such as enlarged spleen. X-ray examinations revealed a high percentage of lesions in the lower lobes and of the lobular type. Estivoautumnal malaria and tertian malaria were associated with pneumonitis to approximately the same extent. Negative results of cultures of sputum were reported in the majority of the cases. The white cell counts were normal or showed a leukopenic trend. Complications of pneumonitis were few and not serious. Most of the patients had mild or moderate symptoms. There was only one death, due to cerebral malaria, in the entire series, and the pneumonitis was considered noncontributory. Pneumonitis in malaria is a relatively benign disease and may be classified as (1) atypical or virus pneumonitis, with inadequate response to the therapy employed, running a self-limited course, (2) bacterial pneumonitis, with adequate response to sulfonamide compounds, and (3) malarial pneumonitis, with favorable response to antimalarial drugs.

Fluorescein Method in Peripheral Vascular Diseases.—Lange and Boyd show that fluorescein when injected intravenously can be made visible by a beam of long wave ultraviolet radiation on reaching any area of exposed skin or mucous membranes with the blood stream. The physical prerequisites for a good visualization are an appropriate long wave ultraviolet ray source and a dark room. A photoelectric method to indicate the arrival of the dye and to measure the intensity of staining may also be used. Fluorescein is not toxic. Over 1,000 patients have been examined without untoward reactions, except that 11 patients had vomiting of short duration. The dye travels with the blood stream and diffuses immediately through the capillaries into the interstitial spaces. Fluorescein is partly adsorbed to the plasma proteins. Changes in capillary permeability change the amount which diffuses as well as the concentration. Even slight inflammation increases the fluorescence of the tissue. Pigmentation, especially in colored people, makes the test unreliable, although certain basic facts can still be elicited. Nine patients with acute embolism of the legs were examined. It was possible to define exactly the lowest possible level of amputation as far as the skin was concerned and to decide immediately on the probable formation of sufficient collateral circulation to avoid amputation. Block of the sympathetic lumbar ganglions should be performed to avoid mistakes caused by vasospasm. Thrombotic occlusion can be immediately diagnosed. Small gangrenous areas in arteriosclerotic peripheral vascular disease can be judged as to the prospect for healing, localization or further spread. There are two functional types of arteriosclerotic peripheral vascular disease as shown by this test. The first form concerns the larger vessels, mainly causing rapidly spreading gangrene in the periphery, while the other occludes mainly small arteries with capillaries, thereby not necessitating large amputations. Thromboangiitis obliterans has usually a higher fluorescence than one would expect from the lack of arterial pulsations. This discrepancy is a leading sign. Spotty fluorescence may complete the picture. Vasospastic disorders have a low fluorescence during the attack, which immediately returns to normal or even increases above normal on blockage of the sympathetic chain. Rubor on an inflammatory basis in a limb with arteriosclerotic peripheral vascular disease can be well differentiated from venous congestion (rubor on dependence). Thrombophlebitis of superficial vessels can be well made out as long as it is inflammatory, and the extent of the inflammation can be outlined. Ulcers of the leg on a varicose vein basis can be judged as to their outlook for healing and skin grafting. Syphilitic ulcers of the leg have a specific picture in the fluorescein test which distinguishes them from varicose vein ulcers.

Archives of Surgery, Chicago

49:147-212 (Sept.) 1944

Experimental Tourniquet Shock, with Particular Reference to Toxic Factor: Method of Production Eliminating Influence of General Anesthesia and Nervous Impulses. S. Chess, Dorothy Chess and W. H. Cole.—p. 147.
Meckel's Diverticulum: Dyspepsia Meckeli from Heterotopic Gastric Mucosa. W. L. Sibley.—p. 156.
Utilization of Oxygen by Brain in Traumatic Shock. A. Blalock. —p. 167.
Treatment of Traumatic Aneurysms and Arteriovenous Fistulas. I. A. Bigger.—p. 170.
*Surgical Treatment of Hypertension: Effect of Radical (Lumbodorsal) Splanchnicectomy on Hypertensive State of 156 Patients Followed One to Five Years. R. H. Smithwick.—p. 180.

Surgical Treatment of Hypertension.—Smithwick reports the results of lumbodorsal splanchnicectomy performed during the past five years on 156 hypertensive patients, who were followed for one to five years. This is a more extensive procedure than most other operations which have been performed for the relief of hypertension. In all cases the great splanchnic nerves were removed from the semilunar ganglion to the midthoracic level or higher. Various portions of the sympathetic trunks were excised. The minimal operation included removal of the tenth thoracic to the first lumbar ganglion inclusive and the maximal operation excision of the sixth thoracic to the third lumbar ganglion inclusive. The effect of operation varies considerably from no change to a distinct lowering of blood pressure. According to the magnitude of the effect on the horizontal resting diastolic blood pressure level the results have been subdivided into five groups. In group 1 there was lowering of 30 mm. or more, in group 2 of 20 to 29 mm., in group 3 of 10 to 20 mm. and in group 4 up to 10 mm.; in group 5 the blood pressure was higher. A study of the postural and cold test charts has revealed certain important differences in the type of hypertension. The patients have been divided into three classes. Patients with narrow pulse pressures, which are less than one-half the diastolic pressure, have type 1 hypertension. Those with wider pulse pressures, equal to or up to 19 mm. more than one-half the diastolic pressure, have type 2 hypertension. Those with the widest pulse pressures, 20 mm. or more greater than one-half the diastolic pressure, have type 3 hypertension. The result of operation varied with the type, being best for type 1 and poorest for type 3. This subdivision has been helpful in indicating the circumstances under which better results may be expected. Favorable changes in eyegrounds, electrocardiograms and renal function, together with an improvement in the well-being of the patients, suggest that lowering of blood pressure is not harmful. The response of patients with pyelonephritis and hypertension to this form of treatment was unusually satisfactory. There was no significant difference in the results in patients with mild or no renal arteriolar disease as compared with those in patients with more advanced changes. The effect of operation on blood pressure does not appear to be primarily dependent on the state of the renal arterioles, as judged by biopsy material, or on known renal disease, such as pyelonephritis, when present. The results strongly suggest that the state of the extrarenal portion of the visceral vascular bed is important and that the lowering of blood

pressure following operation may be largely the result of decreased peripheral resistance to blood flow through this area. Further observation is needed to determine the duration of the effect.

Bulletin of Johns Hopkins Hospital, Baltimore

75:73-148 (Aug.) 1944

Dissecting Aneurysm Producing Coronary Occlusion by Dissection of Coronary Artery. C. W. Wainwright.—p. 81.
Influence of Number of Androgenic Steroids on Urinary Excretion of Neutral 17-Ketosteroids. Elizabeth G. Frame, W. Fleischmann and L. Wilkins.—p. 95.
Riboflavin Deficiency in Swine, with Special Reference to Occurrence of Cataracts. M. M. Wintrobe, W. Buschke, R. H. Follis Jr. and S. Humphreys.—p. 102.
Further Experimental Cardiac Lesions of Rheumatic Type Produced by Anaphylactic Hypersensitivity. A. R. Rich and J. E. Gregory.—p. 115.
*Nonprotein Nitrogen and Protein Concentrations of Serum and Cerebrospinal Fluid in Shock. G. W. Duncan, J. L. Irvin and S. J. Sarnoff.—p. 135.

Proteins in Serum and Cerebrospinal Fluid in Shock.—Duncan and his co-workers compare the nonprotein nitrogen and protein concentrations of serum and cerebrospinal fluid during experimental shock. The type of shock which appeared to be most suitable for this study was that produced by experimental crushing injury, since it has been shown to be characterized by low blood pressure, progressive hemoconcentration, evidence of renal damage and death unless treatment is instituted. Dogs weighing between 7 and 12 Kg. were used as experimental animals. The mean concentration of protein in the cerebrospinal fluid of the animals in shock was greater than the corresponding value for the control group. However, this increase was of small magnitude and may be explained on the basis of a slight shift of water from the spinal fluid resulting from the hemoconcentration. The mean ratios of the concentrations of protein in serum to the corresponding concentrations in cerebrospinal fluid were essentially the same for the two groups of animals. These experiments indicate that if alteration in the barrier relationship between plasma and cerebrospinal fluid does occur in shock produced by this method it is not sufficient to permit extensive passage of plasma proteins into the spinal fluid.

Canadian Medical Association Journal, Montreal

51:293-398 (Oct.) 1944

*Polyvinyl Alcohols as Blood Substitutes. N. W. Roome, L. Ruttle, L. Williams and W. Smith.—p. 293.
Prevention of Premature Arteriosclerosis in Diabetes Mellitus. I. M. Rabinowitch.—p. 300.
Psychoneuroses in Army Overseas. H. H. Hyland.—p. 306.
Root Neuritis vs. Appendicitis. G. Murray.—p. 309.
*Use of Pentothal Sodium in an Army Anesthesia Service. G. D. M. Boddington.—p. 312.
Emotional Reactions in Survivors of H. M. C. S. "Valleyfield." J. F. Simpson and M. Wellman.—p. 316.
Air Transport of Patients. J. W. Tice and W. D. Rankin.—p. 321.
Congenital Malformations of Extremities. J. D. Stenstrom.—p. 325.
Radiation Therapy of Carcinoma of Breast. M. V. Peters.—p. 335.
Sickle Cell Anemia Associated with Cardiac Failure. J. B. R. McKendry.—p. 343.
Spontaneous Dissection of Aorta. D. Levy and D. C. Wilson.—p. 345.
Clinical Estimation of Protein in Cerebrospinal Fluid. W. R. Campbell and M. I. Hanna.—p. 347.
Hemoglobin Concentration in College Women. F. G. Pedley.—p. 351.
Maintenance of Sedimentation Rate of Erythrocytes in Cases of Cancer, Hodgkin's Disease and Leukemia. D. L. Mendel and M. Korenberg.—p. 353.
*Four Years' Experience in Massive Dose Therapy of Early Syphilis. N. E. Berry and L. I. Mitchell.—p. 356.
Observations Regarding Enemas. E. S. Hicks.—p. 358.
*Acute Acetone Poisoning. G. F. Strong.—p. 359.

Polyvinyl Alcohols as Blood Substitutes.—Roome and his associates compared the supportive effect on the blood pressure of several grades of polyvinyl alcohols with other materials after severe hemorrhage. Their experiments were made on dogs, in which half of the blood removed was replaced by various agents including citrated dog blood, citrated plasma, acacia and three grades of polyvinyl alcohols. The studies revealed that polyvinyl alcohol Rh623 is a suitable colloid for a plasma substitute. It maintained the blood pressure as well as did blood transfusions. It was lost from the blood stream in dogs at about the same rate at which the plasma proteins regenerate. Solutions of 4 per cent polyvinyl alcohol Rh623 were given to 4 human subjects. There were no untoward effects. Dilution of the blood occurred and persisted for twenty-four hours after large doses. Inert substitutes, however, do not promote wound healing or act as foodstuffs, as a protein might. They do not contribute to hemostasis; large amounts might impede clotting by diluting the fibrinogen. Their nonprotein nature is also an advantage in lessening the likelihood of anaphylactic reactions. They obviously do not provide antibodies and erythrocytes and hence are valueless in anemias and in infections except to improve the peripheral circulation. If limited to its proper field polyvinyl alcohol would appear very desirable as a first treatment for hemorrhage or shock, assuming that hemostasis can be obtained or that direct bleeding is not a prominent feature. Its small cost, ease of preparation and stability in storage would permit keeping it available for emergency use in amounts larger than can be economically kept in a blood or plasma bank.

Pentothal Sodium in an Army Anesthesia Service.—Boddington shows that pentothal sodium has gained a deserved popularity in army anesthesia practice. In a Canadian camp hospital sodium pentothal was used in 35 per cent of the cases requiring anesthetics. It is equally popular with patient, surgeon and anesthetist. Referring to the mild state of euphoria sometimes occurring with the return to consciousness, soldiers have dubbed pentothal "the G. I. drunk." A preoperative sedative consisting of morphine ¼ grain (16 mg.) and atropine 1/150 grain (0.4 mg.) is given three quarters to half an hour prior to operation. The 5 per cent solution of pentothal has been used in almost all cases. The apparatus consists of a syringe and needle. Any suitable vein may be used, but most often it is the antecubital vein. At the beginning of the anesthesia an injection of 3 cc. is made. The anesthetist then chats quietly with the patient or instructs him to count. Thirty-five seconds later an additional 2 cc. is added. Additional amounts of 2 cc. are given as required. The level of anesthesia is gaged by the depth of respiration, eye movement, conjunctival reflex, muscular relaxation and response to stimulation. Because of the respiratory depression, oxygen is always kept close at hand. As contraindications to anesthesia with sodium pentothal the author mentions impaired pulmonary ventilation, respiratory obstruction and liver disease.

Massive Dose Therapy of Early Syphilis.—Berry and Mitchell have used the five day massive dose therapy of syphilis for four years. They had treated over a hundred cases up to the end of 1942. The authors were able to follow 50 of these cases. While troublesome complications, such as pain in the arm, fever or nausea, occur in a sufficient proportion of cases to make the treatment somewhat unpleasant, serious complications are relatively infrequent. They do occur sufficiently often so that vigilance can never be relaxed. The most dreaded complication is hemorrhagic encephalitis. The authors observed this complication in 1 case, which had a fatal outcome. A second complication was one of toxic hepatitis and polyneuritis. This patient was last seen nearly a year after treatment and at this time he still had a good deal of numbness of his hands and feet and could walk only with the use of a cane. His blood and spinal fluid were normal. Two other serious complications are acute nephritis and exfoliative dermatitis. These conditions are much less common and do not constitute a hazard peculiar to the intensive type of treatment. Eleven patients who have been followed for three years are known to have negative blood. The same is true of 12 patients who have been followed for two years and of 23 patients who have been followed for over one year. One patient, who was treated in November 1940, was found to be positive in March 1941. A boy of 13 with primary syphilis was given 1,320 mg. of mapharsen in the course of six days. This excessive amount was well tolerated. Three months later the boy's blood was negative, but after six months it was positive again. The authors describe an unusual case in which the five day method of antisyphilitic treatment seems to have saved the patient's life.

Acute Acetone Poisoning.—Strong's patient was a man aged 42 who had had a giant cell tumor of the ligamentum teres removed and on whom an arthrodesis had been done. Because there was still incomplete union after the second cast

had been removed a body spica was applied to protect the hip and allow walking with the knee free. For this third cast a material lighter than plaster of paris, a compound consisting of polymerized vinylacetate, pyroxylin, boric acid, acetone and surgical gauze was chosen. This was applied over two layers of stockinet. Following the application of the material a lacquer, also an acetone-containing product, was applied and two and a half hours was spent with hot air blower and suction apparatus in an attempt to dry the cast. The patient was returned to his room at 4 p. m. in good condition. At 7 o'clock he refused his supper and at 11 p. m. developed nausea and vomiting. At 2 a. m. the patient vomited large quantities of brown material. He became gradually more and more difficult to arouse, so that by 6 a. m. he was semiconscious. The patient presented the picture of a severe diabetic coma. It was suggested by consultants that the man had had diabetes and that application of the cast had precipitated a coma. A severe ketosis was produced like that occurring in diabetic coma. There was no acidosis, however, as shown by the normal carbon dioxide combining power of the blood. Hemorrhagic esophagitis was a prominent feature. The hemorrhage was aggravated by the presence of the Levine tube. The fact that urticaria-like welts were found on the skin after the removal of the cast raises the question of idiosyncrasy. It is to be noted, however, that the patient himself had used this material in the application of casts to his own patients without irritation of the skin of his hands. The question whether the acetone was absorbed through the intact skin or by inhalation is an open one. It would appear that the latter route was more likely. Nothing in this report should be taken as a condemnation of the material used. The lacquer in this instance was applied before the cast had had a chance to dry.

Illinois Medical Journal, Chicago

86:181-236 (Oct.) 1944

*Transurethral Drainage of Seminal Vesicles in Seminal Vesiculitis. R. H. Herbst and J. W. Merricks.—p. 190.
Bedside Diagnosis of Parenchymatous Liver Disease. C. J. Watson. —p. 196.
Pharyngoesophageal Diverticula. M. M. Kulvin.—p. 198.
Nasal Sinusitis: Prognosis and Treatment Based on More Rational Histopathologic Interpretation. A. R. Hollender and M. F. Snitman.—p. 206.
Medical, Not Surgical, After-Care of Brain Injuries and Cerebral Asthenia. H. S. Hulbert.—p. 212.
Use of Gelatin as Blood Substitute. H. C. Hopps.—p. 215.
Period of Hospitalization for Premature Infants. C. Newberger. —p. 219.

Transurethral Drainage in Seminal Vesiculitis.—Herbst and Merricks discuss involvement of the seminal vesicles in association with obstructive vesiculitis, prostatic calculi, hemospermia and obstructive sterility. When routine adequate treatment by massage and instillations, with removal of distant foci of infection, fail to relieve infection involving the prostate and seminal vesicles, satisfactory results may often be obtained by providing adequate drainage of obstructed infected seminal vesicles. Transurethral dilation of the ejaculatory ducts alone or at times combined with transurethral prostatotomy for removal of prostatic calculi are the methods of choice. By these procedures the fundamental surgical principles of drainage of these organs is best obtained. The authors have performed transurethral dilation and catheterization of approximately 730 ejaculatory ducts.

Journal of Clin. Endocrinology, Springfield, Ill.

4:357-416 (Aug.) 1944

Ovarian Agenesis: Pathology, Associated Clinical Symptoms and Bearing on Theories of Sex Differentiation. L. Wilkins and W. Fleischmann. —p. 357.
Some Effects of Testosterone, Testosterone Propionate, Methyl Testosterone, Stilbestrol and X-Ray Therapy in Patient with Cushing's Syndrome. M. L. Deakins, H. B. Friedgood and J. W. Ferrebee. —p. 376.
Further Studies of Absorption, Distribution and Elimination of Thiouracil. R. H. Williams, with technical assistance of Gloria A. Kay. —p. 385.
Control of Induced Estrogen Bleeding. M. S. Margolese.—p. 394.
Observations on Experimental Use of Gonadotropic Extracts in Human Female. M. E. Davis and A. A. Hellbaum.—p. 400.

Journal of Infectious Diseases, Chicago

75:103-178 (Sept.-Oct.) 1944

Preservation of Classic Rickettsia Prowazeki in Lungs of Mice After 75 Consecutive Transfers. M. R. Castaneda and R. Silva G.—p. 103.
Report on Six Strains of Shigella Paradysenteriae Type P274 Isolated from Cases of Dysentery in Georgia. Janie F. Morris, Alice Brim, T. F. Sellers and R. F. Payne.—p. 106.
Use of Yolk Sac of Developing Chicken Embryo in Isolation of Agent of Lymphogranuloma Venereum. M. F. Shaffer, Helen Jones, A. W. Grace, Dorothy M. Hamre and G. Rake.—p. 109.
Study of Para-Aminobenzoic Acid Requirement of Clostridium Acetobutylicum: Application to Assay Procedure. R. D. Housewright and S. A. Koser.—p. 113.
Influence of B. Vitamins on Resistance of Rats to Induced Pneumococcal Lobar Pneumonia. H. J. Robinson and H. Siegel.—p. 127.
Studies on Experimental Bartonella Anemia in Albino Rat: III. Potassium and Other Blood Changes. W. R. Kessler and R. L. Zwemer.—p. 134.
Changes Associated with Acquired Immunity During Initial Infections in Saurian Malaria. P. E. Thompson.—p. 138.
Bactericidal Action of Antibiotic Substances. S. A. Waksman and H. C. Reilly.—p. 150.
Isolation of Three Neurotropic Viruses from Forest Mosquitoes in Eastern Colombia. M. Roca-Garcia.—p. 160.
Influence of Intracutaneous Injection of Sonic Filtrate of Brucella Abortus on Blood Leukocyte Picture of Cattle Positive to Brucellosis. I. Live, E. L. Stubbs and W. L. Mackey Jr.—p. 170.
Effect of Riboflavin Deficiency on Course of Plasmodium Lophurae Infection in Chicks. A. O. Seeler and W. H. Ott.—p. 175.

Journal of Thoracic Surgery, St. Louis

13:357-444 (Oct.) 1944

*Arteriovenous Fistula of Lung: Report of Patient Cured by Pneumonectomy. J. C. Jones and W. P. Thompson.—p. 357.
Indications for Pericardiotomy, with Special Reference to Exposure of an Infected Patent Ductus. H. Neuhof.—p. 374.
Management of Stricture of Esophagus, with Special Reference to Complete Stricture of Midesophagus: Detailed Report of 2 Cases. R. Adams and W. B. Hoover—p. 383.
Surgical Treatment and Clinical Manifestations of Benign Tumors of Esophagus: Report of 7 Cases. S. W. Harrington and H. J. Moersch.—p. 394.
Causes of Mortality Following Radical Resection of Esophagus for Carcinoma. J. H. Garlock.—p. 415.
Muscle Splitting Thoracoplasty. R. M. Lewis.—p. 431.
Postlobectomy Lobar Collapse. H. H. Sampson and J. L. Collis. —p. 435.
Flap Valve Constructed from Medicine Dropper. E. Windsberg. —p. 442.

Arteriovenous Fistula of Lung Cured by Pneumonectomy.—According to Jones and Thompson arteriovenous fistula of the lung usually masquerades in a cyanotic young patient with clubbing of fingers and toes as congenital heart disease or polycythemia until either a tumor of the lung or a continuous murmur in the chest is finally discovered. The authors report the history of a woman aged 24 who had been cyanotic from birth and intensely so until the age of 16. Clubbing of the fingers began at the age of 9 years, increased until 16 and then remained stationary. Her activities were restricted until the age of 16, but subsequently she became quite active without symptoms. Eighteen months before being seen by the authors the patient was examined by an internist, and for the first time x-ray examination revealed an intrathoracic mass. On a presumptive diagnosis of tumor a course of radiation therapy was given, but it affected neither the mass nor the cyanosis. At that time polycythemia was noted and thought to be primary. The red blood cell count had ranged between 6.5 and 7.5 millions, with a hemoglobin of 130 per cent, for the last one and one-half years. She had been working steadily as a stenographer and leading a normal life. The conjunctivas and mucous membranes were intensely cyanotic. A provisional diagnosis of arteriovenous aneurysm of the right lung was made on the history of cyanosis since birth, the persistent secondary or symptomatic polycythemia, the presence of a continuous murmur over the tumor mass in the right lung, clubbing of the fingers and a normal heart. Pneumothorax on the right side was tried in the hope that it might collapse the arteriovenous communication. The pneumothorax was maintained for five months, but, since it had been impossible to collapse the fistula, surgical treatment was considered necessary. A right total pneumonectomy proved necessary and was done by dissection and individual ligation. A checkup four months after the operation revealed that the patient was well and leading an active life. To the question why surgery should be performed on a young patient

when the lesion has imposed no incapacitation, the author states that rupture of the fistula led to sudden death of Rodes's patient and that in his own patient the sac was extremely thin. There is also a hazard of thromboses secondary to the polycythemia.

Kansas Medical Society Journal, Topeka

45:305-338 (Sept.) 1944

Newer Aspects in Management of Hypertension. E. Massie.—p. 305.
Chronic Cystic Mastitis, Therapeutic Problem. H. H. Hesser.—p. 311.
Recent Advances in Anesthesiology. P. H. Lorhan.—p. 318.

45:341-376 (Oct.) 1944

Renal Tuberculosis. W. G. Gordon.—p. 341.
Fetal Asphyxiation. R. E. Pfuetze.—p. 344.
Case of Complete Absence of Inferior Vena Cava. H. B. Latimer and H. H. Virden.—p. 346.

Michigan State Medical Society Journal, Lansing

43:841-936 (Oct.) 1944

What it Means to Be a Doctor. C. R. Keyport.—p. 883.
Significance of Complete Preventive Medical Program for Children. C. A. Aldrich.—p. 885.
Survey of 180 Cases of Syphilis in Suburban and Rural Community, Ingham County, Michigan. C. D. Barrett and L. E. Kerr.—p. 889.
Suggested Inquiry into Possible Relationship Between Albuminuria, Essential Hypertension and Nutritional Deficiency. W. DeKleine.—p. 897.
Tubal Pregnancy: Unusual Occurrence of 7 Cases in One Year of General Surgical Practice. J. M. Sisson.—p. 900.

North Carolina Medical Journal, Winston-Salem

5:477-516 (Oct.) 1944

Salicylate Therapy for Rheumatic Fever and Atrophic Arthritis (Still's Disease) in Children. R. B. Lawson.—p. 477.
*Ophthalmologic Lesions Encountered in Tropics, with Special Reference to Ocular Manifestations of Malaria. J. N. Robertson.—p. 483.
Results of Thoracoplasty for Pulmonary Tuberculosis at Western North Carolina Sanatorium. J. A. Moore and S. M. Bittinger.—p. 485.
Comment Following Movie on Continuous Caudal Analgesia in Obstetrics. Eleanor Beamer Easley.—p. 491.
Physiologic Basis of Treatment in Shock and Hemorrhage. J. H. Ferguson.—p. 493.
Postwar Planning for Medical Care of Rural Population of North Carolina. I. H. Manning.—p. 496.
Thumbnail Sketches of Eminent Physicians. J. C. Trent.—p. 497.

Ocular Manifestations of Malaria.—According to Robertson, optic neuritis and amblyopia are at times associated with malaria. The amblyopia has to be differentiated from that which is due to quinine. In quinine amblyopia the condition depends on the retinal anemia resulting from the toxic spasm of the arterioles; there is extreme pallor of the optic disks and contraction of the visual fields. This picture is in direct contrast to the hyperemic disk and retina associated with malarial toxemia. Malarial amblyopia occurs as a result of the action of the malarial toxin on the optic nerve and retina. Often optic neuritis and papillary edema result from the blocking of the retinal and choroidal vessels by parasites and leukocytes. The retinal hemorrhages are usually small, multiple and peripheral; large macular hemorrhages do occur in the malignant types of malaria. Ulceration of the cornea is the most common ocular sequela of malaria, and recurrent iritis is frequently associated with this keratitis. Supraorbital neuralgia precedes the corneal lesions. Photophobia and lacrimation are characteristic signs and often precede the corneal lesions by days or weeks. On an island in the Southwest Pacific the author encountered many patients with intraocular disturbance among men between the ages of 20 and 30. Many had suffered some depletion of the powers of accommodation and convergence, as was manifested by the complaints of reading difficulties, scotomas and muscle imbalance, particularly exophorias. Subjectively the complaints were loss of vision, frequent headaches in the occipital and temporal regions, dizziness, pain in the eyeballs, tenderness on palpation, photophobia, lacrimation and spots before the eyes. The objective findings were irregularity of the pupils, retinitis of the atrophic type, usually in or around the macular area, unusual concentration of choroidal pigmentation, generalized hyperemia of the retina and nerve head, optic neuritis both mild and severe, optic atrophy and in a few cases a severe progressive choroidoretinitis and uveitis. Some of the patients who were evacuated were followed up by the author since his return. Some of them now have a chronic uveitis.

Radiology, Syracuse, N. Y.

43:319-424 (Oct.) 1944

Extravesical Lesions Causing Bladder Neck Obstruction. S. W. Donaldson.—p. 319.
Effects of Radiation Therapy in Clostridium Infection in Sheep. E. A. Merritt, A. J. Den and U. V. Wilcox.—p. 325.
Effect of X-Ray Irradiation on Bacterial Toxemia in Rabbits. J. D. Bisgard, H. B. Hunt and R. H. Dickinson.—p. 330.
*Roentgen Therapy in Gas Bacillus Infection: Report of 9 Cases with Recovery. S. T. Cantril and F. Buschke.—p. 333.
*Clinical and Roentgenologic Study of Effects of Hormonal Therapy on Bone Growth. Rita S. Finkler, N. J. Furst and M. Klein.—p. 346.
Pituitrin for Concentrating Diodrast in Excretion Urography. M. H. Wald and A. F. Galloway.—p. 358.
Angiocardiography: Anatomy of Heart in Health and Disease. H. K. Taylor and Teresa McGovern.—p. 364.
Erythroblastic Anemia: Report of Case in Boy 8 Years Old. W. J. Corcoran.—p. 373.
Simple Fluoroscopic Method of Foreign Body Localization. C. J. Zintheo Jr.—p. 376.

Roentgen Therapy in Gas Bacillus Infection.—Cantril and Buschke present 9 cases to demonstrate that x-ray therapy can in itself, or in conjunction with surgery, save patients with an overwhelming gas bacillus infection superimposed on the shock of severe trauma. The interval between injury and x-ray therapy varied between six hours and nineteen days. Five patients received antitoxin therapy and 4 did not. One patient received only 10,000 units and developed a severe serum reaction. The other 4 patients received it in full therapeutic amounts. Chemotherapy in the form of sulfonamide was administered to all but 3 of the 9 patients. There was no evidence that chemotherapy had a place in controlling the progression of the gas bacillus infection. When used to combat the secondary bacterial invasion after the spread of gas infection had been brought under control it seems to have produced good results in 3 cases. The mortality in the 9 cases was zero, but the authors do not expect that this record can be maintained. A mortality of 11.2 per cent in 125 cases, as reported by Kelly, still represents a large saving in lives over reports prior to the use of x-rays in this disease. X-ray therapy has saved both lives and limbs in gas bacillus infection. The combination of surgery and x-ray therapy can produce results not heretofore obtained by any approach to this most severe complication of traumatic wounds.

Effects of Endocrine Therapy on Bone Growth.—According to Finkler and her associates the effect of endocrine therapy on growth in children has been under investigation in the Endocrine Clinic of the Beth Israel Hospital for the past eight years. The influence of endocrine therapy on bone growth has been observed in 81 children, 18 of whom were treated with thyroid substance, 26 with anterior pituitary growth extract, 19 with chorionic gonadotropin and 18 with testosterone. Thyroid therapy tended to improve bone density and epiphysial union. At the conclusion of therapy the bone density was normal in all children, but in 5 the delay in epiphysial union persisted. There was an improvement in growth rate, physical development and mental alertness. Best results were obtained in children with thyroid deficiency. Therapy with anterior pituitary growth extract did not yield conclusive evidence of changes in skeletal growth in the majority of the 26 patients. There was, however, a general improvement in vitality, muscle tone and mental alertness in the majority of the children. Chorionic gonadotropin therapy stimulated bone growth in the longitudinal axis but did not accelerate epiphysial union, bone maturation or density in the majority of the cases. Seventeen children responded by an increase in growth rate; 2 children maintained their original rate of growth. All children showed an improvement in genital development, muscular tone, mental alertness and social adjustment. There was also a loss of weight in the majority of the obese children. Testosterone therapy showed a tendency to accelerate skeletal growth in length to a somewhat greater degree than chorionic gonadotropin. Clinically 16 children showed an increase in growth rate and 2 maintained their original rate of growth. All children showed improvement in genital development, muscular tone and self assurance. Before endocrine therapy all the children presented various psychologic maladjustments. Following endocrine therapy, with improvement in growth and genital and muscular development, there was a tendency to improvement in mental and emotional stability.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Ophthalmology, London

28:481-532 (Oct.) 1944

Case of Polycythemia Vera: Extraction of Both Lenses; Satisfactory Result. J. C. Marshall.—p. 481.
Case of Cornea Plana. C. Cockburn.—p. 486.
Effects of Faradically Induced Currents on Extrinsic and Intrinsic Ocular Musculature: Clinical Self Experiment. J. H. Young.—p. 488.
Dynamic Factors in Formation and Reabsorption of Aqueous Humor. J. S. Friedenwald.—p. 503.
Mucocele of Maxillary Antrum. G. E. Dodds.—p. 510.
Retrobulbar Neuritis (Five Cases) Due to Paranasal Sinusitis. Rosa Ford.—p. 511.
Reconstruction of Lower Lid by Hughes' Method. J. Foster.—p. 515.
Congenital Ectropion Associated with Bilateral Ptosis: Case Report. S. Gordon and B. H. Craig.—p. 520.
Angioma of Retina. I. C. Michaelson.—p. 522.

British Journal of Radiology, London

17:261-290 (Sept.) 1944

Some Problems of Appendix Radiology. A. M. Rackow.—p. 265.
Effect of Ionizing Radiations on Broad Bean Root. L. H. Gray and J. Read.—p. 271.
Particular Type of Tuberculous Pulmonary Cavitation Tending to Heal Spontaneously. L. Dunner.—p. 274.
Air Absorption Corrections for Soft X-Rays. C. E. Eddy and J. L. Farrant.—p. 278.
Radiologic Estimation of Splenic Enlargement in Malignant Tertian Malaria. W. H. T. Shepherd.—p. 280.
Importance of Air Encephalography in Investigation of Epilepsy of Late Onset. J. McM. Mennell.—p. 286.
Amebic Perinephric Abscess. J. A. Ross.—p. 289.

British Medical Journal, London

2:363-392 (Sept. 16) 1944

Laboratory Tests in Diagnosis of Liver Disease: Report on Three Procedures. N. F. MacLagan.—p. 363.
*Artificial Respiration: Need for Greatly Increased Rate in Asphyxia. P. R. Tingley.—p. 366.
Psychiatry in Detention. R. R. Prewer.—p. 368.
Proteolyzed Beef in Treatment of Celiac Disease. A. C. Adamson and D. Lewes.—p. 370.
Fracture Dislocation of Ankle Occurring in Flying Accidents. T. James. p. 372.
Survey of Hemoglobin Levels of Poor Classes in Aberdeen. H. W. Fullerton, M. Isobel Mair and Patricia Unsworth.—p. 373.

Artificial Respiration in Asphyxia.—Tingley points out that the rate in all methods of artificial respiration varies between twelve and eighteen times a minute. It is his aim to demonstrate the error in the application of all methods of artificial respiration to cases of asphyxia without at the same time considering the greatly increased respiratory requirements. All cases for which artificial respiration is required fall into two main groups: group 1, cases without asphyxia, e. g., under anesthesia, from electric shock; group 2, cases with asphyxia, e. g. suffocation from drowning, from lack of air from smoke, from gases. Artificial respiration done at the usual rate of fifteen times a minute is adequate and excellent for group 1 cases, as the respiratory requirements are approximately the same as in natural respiration at rest; but the same rate is quite inadequate to deal satisfactorily with group 2 cases of asphyxia. He differentiates three degrees of asphyxia: degree 1, up to loss of consciousness; degree 2, up to cessation of respiration; degree 3, up to final heart failure. He describes experiments on degree 1 asphyxia which revealed that the deeper the asphyxia the greater is the respiratory requirement, that the total volume of air exchanged in a given time largely determines the extent of relief from asphyxia and that the faster the rate of tidal respiration the greater the relief from asphyxia. In every method of artificial respiration employed at present the rate is slow. Four seconds is a long time when applied to one respiratory cycle. In most methods it has been necessary to include a pause of one to two seconds in each cycle in order to keep the rate down to the so-called normal. He thinks that in natural respiration for even mild degrees of asphyxia there is no time for a pause at all. In Schafer's method it is difficult to occupy fully three seconds with the actual movements necessary for one cycle. It is much easier, and just as effective, to do all the movements in two seconds instead of three. The second so saved could be utilized, along with the second previously set aside for an interval, by providing the two seconds necessary for another cycle. Thus the rate may be doubled without undue effort. This rate of thirty times a minute can be doubled again. It is not difficult to do Schafer's method at a rate of sixty times a minute without loss of volume per respiration. Silvester's method, because of the nature of the movements necessary, takes more time to perform than Schafer's, and a rate of about forty-five times a minute would seem to be the efficient maximum.

2:393-424 (Sept. 23) 1944

*Influence of Synthetic Estrogens on Advanced Malignant Disease. A. Haddow, J. M. Watkinson, Edith Paterson and P. C. Koller.—p. 393.
Reactive Hyperinsulinism: Case Report, with Discussion of Differentiation from Islet Tumor. F. T. G. Prunty.—p. 398.
Traumatic Rupture of Aorta. G. Forbes.—p. 400.
*Fatal Case of Purpura After Sulfapyridine. Sheila Sherlock and J. C. White.—p. 401.
Hemoglobin Levels in Women's Auxiliary Air Force. S. Yudkin.—p. 403.

Influence of Synthetic Estrogens on Advanced Malignant Disease.—Haddow and his associates report observations on 40 cases of carcinoma of the breast and 33 cases of malignant disease of other organs. These 73 patients with advanced cancer were treated with the synthetic estrogens triphenylchlorethylene, triphenylmethylethylene or diethylstilbestrol. Of 22 cases of late malignant disease of the breast treated with triphenylchlorethylene (usually in doses of 3 to 6 Gm. per day) 10 showed a significant although temporary retardation or even partial regression of the tumor. No evidence was obtained to suggest that the drug will prevent the development of metastases. The initial effect of treatment in these cases passed off comparatively rapidly, and only 1 has shown prolonged arrest, the ultimate course of the disease being in no way altered in the remainder. The degree of retardation was less than could be expected from local palliative x-irradiation. Of 30 cases of advanced malignant disease other than cancer of the breast (including carcinoma of the skin, maxillary antrum, urinary bladder, ovary, rectum and testis, with reticuloendothelial growths and leukemia) and similarly treated with triphenylchlorethylene, only 2 showed undoubted partial regression of the tumor. Of 4 cases of mammary cancer and 3 cases of Hodgkin's disease treated with triphenylmethylene only 1 showed even a temporarily favorable response. Of 14 cases of carcinoma of the breast treated with diethylstilbestrol, 5 showed alterations in the growth and behavior of the tumor similar in nature to those produced by triphenylchlorethylene. Serial biopsies in cases with clinical response showed microscopic alterations of a type not resembling the changes following x-irradiation. The secondary signs of drug action included nausea, pigmentation of the mammary areola, mastitis in the male, uterine bleeding and edema of the lower extremities. One or more of such changes occurred with special frequency in cases showing some degree of tumor regression. Several of these patients also manifested improved appetite, gain in weight and diminution of pain.

Fatal Purpura After Sulfapyridine.—Sherlock and White observed acute purpura during the course of sulfapyridine therapy of pneumonia in a man aged 52. He was given 30 Gm. of sulfapyridine in seven days, and the immediate response was satisfactory. However, five days after cessation of treatment there was a rise of temperature. Recrudescence of pneumonia or empyema was considered. Sulfapyridine therapy was restarted, 4.5 Gm. being given during the next five days. The malaise and pyrexia persisted. It was noted that the temperature rose after each dose of sulfapyridine. Then a slight epistaxis developed, and several days later an extensive purpuric eruption appeared on the palate, arms and legs. Epistaxis persisted, and blood was oozing from the gums. He vomited coffee-ground material giving a positive benzidine reaction. The urine, normal in quantity, had become frankly blood stained. The ankles presented pitting edema. Later purpura was even more gross, and blood was flowing freely from the nose and mouth. Compatible blood was transfused. As the procedure was started the patient complained of a bursting sensation in the head; two and one-half hours later he was in coma. Several hours later the patient died. The authors are convinced that the patient's fatal illness was the result of sulfapyridine. Necropsy disclosed that pneumonia had resolved. The authors think that vascular lesions caused the fatal purpura. The effect

on the vessels may be due to hypersensitivity. If drugs are administered in two courses, hypersensitive phenomena are more likely to occur. In the reported case the drug was given for seven days; then a five day interval was allowed to elapse before restarting it. It was only on the second occasion that the supposed intolerance became apparent. The high mortality of this condition makes early recognition essential. The first clinical sign is nearly always epistaxis. If this or other spontaneous bleeding is discovered in a patient receiving sulfonamide drugs, the administration should be stopped immediately and a bleeding time and capillary resistance test done. Adequate transfusion of fresh blood is probably the best treatment.

Edinburgh Medical Journal

51:305-352 (July-Aug.) 1944

Administration of Drugs. J. H. Gaddum.—p. 305.
Bacterium Enteritidis Septicemia. S. McDonald.—p. 320.
Nitrogen Balance in Chronic Kidney Disease. O. Olbrich.—p. 327.
Effect of Surgical Operation on Capillary Resistance. H. Scarborough.—p. 335.
Prophylaxis of Cutaneous Cancer. R. Aitken.—p. 339.

J. of Neurol., Neurosurg. & Psychiatry, London

7:1-56 (Jan.-April) 1944

Traumatic Dilatation of Cerebral Ventricles. D. W. C. Northfield.—p. 1.
Effect of Galvanic Exercise on Denervated and Reinnervated Muscles in Rabbit. E. Gutmann and L. Guttmann.—p. 7.
Myelitis Due to Vaccination. G. J. Dixon.—p. 18.
Physical Examination of 2,000 Cases of Neurosis. H. G. McGregor.—p. 21.
Causation of Mongolism. M. Engler.—p. 27.
Case of Partial Congenital Hemihypertrophy. A. Huse.—p. 30.
Post-Traumatic Pain and Causalgic Syndrome. J. Doupe, C. H. Cullen and G. Q. Chance.—p. 33.
Heuristic Theory of Neurosis. E. Slater and P. Slater.—p. 49.

Medical Journal of Australia, Sydney

2:225-264 (Sept. 2) 1944

*Congenital Dental Defects in Infants Subsequent to Maternal Rubella During Pregnancy. M. W. Evans.—p. 225.
Otitis Externa in New Guinea. A. F. Quayle.—p. 228.
Commentary on Guillain-Barré Syndrome from General Practitioner's Viewpoint. R. T. Kennedy.—p. 231.

Congenital Dental Defects and Maternal Rubella During Pregnancy.—Evans points out that the association of congenital defects in infants with maternal rubella during pregnancy is now well established. The parents of each infant were questioned with regard to the time of eruption of the teeth, especially the first, and the occurrence of convulsions. Each child was examined from the point of view of such dental defects as (*a*) variation in the number of teeth from normal, (*b*) hypoplasia, (*c*) abnormal tooth form, (*d*) restricted arch formation, (*e*) dental caries and (*f*) gingivitis. Of 34 babies whose mothers suffered during pregnancy from German measles, 23 exhibited congenital dental abnormalities, in 18 cases major in nature. All except 2 of the infants with dental defects showed other congenital malformations. There were also other defects such as deaf mutism, cataract, heart disease, microcephaly and mental deficiency. With the exception of 2 cases the mothers of all the children with congenital dental abnormalities had contracted rubella at some period during the first three months of pregnancy. Dental defects were most severe in infants belonging to the mothers who had suffered from German measles between the sixth and the ninth week of pregnancy, considered to be the "critical" period of dental development. The main dental abnormalities comprised retardation of eruption, enamel hypoplasia and dental caries.

Revista Clínica de São Paulo, São Paulo

15:97-126 (April) 1944. **Partial Index**

*American Visceral Leishmaniasis: Case. O. Monteiro de Barros and G. Rosenfeld.—p. 97.

American Visceral Leishmaniasis.—Monteiro de Barros and Rosenfeld direct attention to the importance of splenic puncture for the diagnosis of American visceral leishmaniasis. The authors' patient, 19 years of age, complained for eight months of symptoms suggestive of malaria. The progressive anemia and emaciation did not respond to malarial therapy. There was enlargement of the spleen but no malarial parasites on repeated blood examinations. American leishmanias were identified in preparations from material obtained by puncture of the spleen. Treatment consisted of intramuscular injections of Neostibosan (a pentavalent antimony compound) in doses of 6 cc. (0.30 Gm.) each, every other day up to a total number of thirty injections. Antianemic therapy was also administered. Permanent recovery and disappearance of splenomegaly followed.

Acta Pathol. & Microbiol. Scandinav., Copenhagen

20:425-632, Part 3, 1943. **Partial Index**

Serum Research Against Mucin Infections with Dysentery Bacteria Poor in Toxins. V. Sindbjerg-Hansen.—p. 442.
*Demonstration of Neoplastic Cells in the Sputum. H. H. Wandall.—p. 485.
Culture of Gonococci in Diagnosis and Treatment of Gonorrhea. G. Hagerman.—p. 495.
Natural and Synthetic Estrogenic Substances. T. Kemp and K. Pedersen-Bjergaard.—p. 552.
Modification of Dominici's Method for Elective Staining of Eosinophil Cells of Anterior Lobe of Pituitary Gland. P. Fonss-Bech.—p. 560.
*Effect of p-(Aminomethyl)-Benzenesulfonamide ("Marfanil"), a Chemotherapeutic with a Fundamentally New Mode of Action. K. Schmith.—p. 563.
Motility of Fusobacterium. J. Boe.—p. 573.
Relation Between Fusobacterium and Accompanying Spirochetes. J. Boe and J. Jonsen.—p. 585.
Demonstration of New Salmonella Type (S. Sundsvall) in Sweden. G. Olin and K. Alin.—p. 607.
Contribution to Problem of Geographic Variations in Anatomic Aspect of Ulcus Gastrititis. N. Ringertz.—p. 615.

Neoplastic Cells in Sputum.—Wandall states that the cytologic examination of sputum may become an aid to the roentgenologic and bronchoscopic examinations in diagnosis of primary pulmonary carcinoma. The radium station and the surgical department of the State Hospital in Copenhagen examined the sputum in 60 cases. Diagnosis of primary pulmonary carcinoma was made in 30 cases, diagnosis of secondary pulmonary carcinoma in 5 and diagnosis of a benign bronchial tumor in 1 case. Twenty-two of the 30 cases of primary pulmonary carcinoma were confirmed histologically, while the remaining 8 were roentgenologically positive. In 19 of the 22 histologically confirmed cases and in 7 of the 8 roentgenologically positive cases neoplastic cells were demonstrated in the sputum. In the case of the benign bronchial tumor neoplastic cells could not be demonstrated in the sputum. Neoplastic cells were found in the sputum of patients with metastases to the lung from osteosarcoma, hypernephroma, carcinoma of the ovary and seminoma. The frequency of neoplastic cells in the sputum depends on the extent, the localization and the histologic type of the tumor. Thirteen of the 22 histologically verified cases were inoperable. In 12 of these 13 cases neoplastic cells were demonstrated in the sputum. In the remaining 9 cases it was decided to operate. Seven of the cases proved inoperable. Radical operation was performed in 2 cases, both of which presented neoplastic cells in the sputum. Two cases presented a peripheral localization of the tumor. Neoplastic cells were demonstrated more frequently in the differentiated than in the undifferentiated types of tumor.

Chemotherapeutic Effect of p-(Aminomethyl)-Benzenesulfonamide ("Marfanil").—Schmith reports studies in which, among other compounds, p-(aminomethyl)-benzenesulfonamide ("Mesudin," "Marfanil") has been examined as a link in a systematic investigation on the relationship between the chemical structure of the sulfonamides and their bacteriostatic effect. These studies showed that p-(aminomethyl) benzenesulfonamide has a chemotherapeutic effect of a fundamentally different character from that of the other sulfonamides. The effect of this substance is not neutralized by para-aminobenzoic acid. It has just as strong a bacteriostatic effect on the resistant strains as on the sensitive strains of bacteria. P-(aminomethyl)-benzenesulfonamide is able to reduce the number of bacteria at once, i. e. without any initial phase of growth. The effect of p-(aminomethyl)-benzenesulfonamide does not depend on the size of the inoculum, i. e. its effect on large inoculums is not weaker than that on small inoculums. So far, p-(aminomethyl)-benzenesulfonamide has been employed clinically only to such a slight extent that it would be impossible to say anything about its therapeutic value. Further experiments are necessary to ascertain whether its effect may be increased by the introduction of heterocyclic substituents as in sulfanilamide.

Book Notices

The Blood Pressure and its Disorders Including Angina Pectoris. By John Plesch, M.D. Cloth. Price, $4.50. Pp. 149, with 61 illustrations. Baltimore: William Wood & Company, 1944.

This little monograph, with its overly ambitious title and high price, is concerned primarily with a thorough discussion of the theory, technic and interpretation of tonoscillographic mensuration of the vascular tension. As a research monograph on this particular phase of abnormal physiology of the circulation it is a stimulating book of interest to those internists and investigators concentrating their attention on hypertensive arterial disease. To others it offers little that is useful. The approach to the multifaceted and complex problems of circulatory disease lacks breadth of view and clinical insight. Etiology, pathogenesis and prognosis are mentioned only superficially. The discussion of therapy in hypertension in general and for angina pectoris in particular is a curious mixture of archaic and modern concepts. It was rather a shock to discover the author advocating blood letting in angina pectoris. As an alternative he suggests a "reduction of blood volume by a diet low in protein, sodium chloride and other water-retaining substances." Such concepts hardly warrant attention today.

Dr. Plesch, according to the title page, was formerly professor of internal medicine in the University of Berlin. His presentation therefore gives us some insight into recent continental medical thinking. Apparently it has not changed appreciably, remaining purely somatic in point of view. The psychosomatic aspects of cardiovascular disorders are totally ignored. His presentation is wholly individualistic; no consideration is given the significant literature on hypertensive disease which has been accumulating over the last twenty years. Though the author's discussions are clear and the text well written, the dogmatic assurance of finality is unlike that of a true scientist, who invariably doubts his own conclusions. The book can be recommended only to those who are particularly interested in circulatory disorders and sufficiently advanced students of these problems to read it critically. It can perform no particular service for the general practitioner or internist of broad interests.

La organización de la Universidad y la investigación científica. Por el Prof. Dr. Alejandro Lipschütz, director del departamento de medicina experimental del Servicio nacional de salubridad. Paper. Price, 25 pesos. Pp. 216. Santiago, Chile: Editorial Nascimento, 1943.

The author has published a series of lectures delivered in different cultural institutions of Chile in which he approached varied problems concerned with education, science, culture, philosophy, religion and politics. The reader has the impression that the author has taken advantage of these opportunities to expose those points of view that every cultured person has about the complexities of life and which, in general, are kept as a subject for private conversations of a high intellectual sort. This sort of lecturing can be highly instructive and amusing, especially if the lecturer presents his subject with both clarity and charm, as undoubtedly Dr. Lipschütz did. The frequent imperfections of the Spanish used, which are obvious to the eyes of the Spanish authority, no doubt passed unnoticed to the ears of the listener.

Ourselves Unborn: An Embryologist's Essay on Man. By George W. Corner. The Terry Lectures 1944. Cloth. Price, $3. Pp. 188, with 18 illustrations. New Haven: Yale University Press; London: Oxford University Press, 1944.

The Terry Lectures were established at Yale so that the truths of science and philosophy might be integrated into "a broadened and purified religion." The committee for the last lectures selected embryology as the science and Dr. George Corner as the interpreter and integrator. The excellence of this little book is conclusive evidence of wisdom in both selections: embryology is significant for religion, and Dr. Corner is a capable, scholarly and sympathetic interpreter.

The book is brief, being concluded in three chapters. In the first, Dr. Corner with consummate skill describes briefly in intelligible and nontechnical terms what to anatomists is the most wonderful phenomenon in our universe—the phenomenon in which one microscopic particle of protoplasm becomes by self-impelled progression a living man—perhaps another Shakespeare or a Newton. This is the miracle of "Ourselves Unborn." We are at that stage both germs and archives—germs, because that small but busy bit of life becomes a man with all his hopes, ideals and religion—archives, because its life is just the life of our ancestors continued in a line necessarily unbroken from the beginning of life on this planet and reporting and repeating in its progress the long history of its past.

The second chapter deals with accidents during life in the womb before birth. These accidents are so common that from one third to one half of us die then, mostly unrecognized even by the mothers. Religion prompts the questions "Did these dead have souls? Have they eternal life?" Is one of them because unbaptized a little soul "playing in a green field outside the gates of heaven; not in torment, nor even unhappy, but certainly very wistful because he is not permitted to walk hand in hand with his mother before the Throne of Grace"?

The third chapter deals with embryologic evidence of our place in nature and our evolutionary origin. It concludes that we are in "intimate relationship with the animal world, tempered by powers of the mind that bestow dignity and honor upon the life of the body."

An index helps in the study of this fascinating book, and a bibliography will show some interested readers how to make a more thorough and intensive study. Dr. Corner has provided a reliable and inspiring vision of our earliest days, and his book is a contribution to literature as well as to science and religion.

Technic of Electrotherapy and Its Physical and Physiological Basis. By Stafford L. Osborne, M.S., Ph.D., Assistant Professor, Department of Physical Therapy, Northwestern University Medical School, and Harold J. Holmquest, B.S., B.S.(M.E.). Cloth. Price, $7.50. Pp. 780, with 241 illustrations. Springfield, Illinois & Baltimore: Charles C Thomas, 1944.

This excellent new textbook dealing with a limited but important phase of physical medicine is divided into four parts. The first part deals with the effect and technical application of the direct current, the second with electrical stimulation of muscles, the third with radiation and the fourth with high frequency electrical currents.

The authors are eminently qualified to present the subject with which they are dealing. Osborne, as a trained physiologist who has devoted many years to the subject of physical medicine, and Holmquest, the qualified physicist who has interested himself particularly in medical physics, have collaborated in presenting a difficult subject in an understandable fashion.

The authors state that the book has been written with two groups of students in mind: first, those who are well grounded in science and who desire a thorough and comprehensive training in the fundamentals of electrotherapy, for whom the more advanced work in physics and mathematics appears in the form of footnotes; second, those students whose training in science is limited and who might therefore find the subject matter in the footnotes difficult to follow. For the latter group of students the technical material in footnotes may be eliminated without interfering with the clarity or continuity of the text. The authors have succeeded very well in their purpose, and the procedure which has been described has been accomplished successfully.

This textbook is unquestionably the most complete modern volume on the physical and physiologic basis of electrotherapy. Every physician who is interested in physical medicine and every physical therapy technician would do well to study it carefully. The authors are to be congratulated on a difficult task well done.

Del estado, del niño, del médico. Por Eduardo D. Ocampo Gari. Tesis del alumno, Universidad nacional de Buenos Aires, Facultad de ciencias médicas, Escuela de medicina. Paper. Pp. 131, with illustrations. Buenos Aires: Guillermo Kraft Ltda., Sociedad Anónima de Impresiones Generales, 1942.

The first chapter includes useful statistics on childbirth and infantile mortality in the city of Buenos Aires. The second chapter deals with the measures taken in different countries for the protection of mothers and the infantile population. The third chapter deals with analogous measures in the Argentine Republic and gives interesting statistical and graphic information on a model kindergarten in Buenos Aires, the "Jardin de la Infancia Mitre." The last chapter summarizes the topic and draws plans for the future.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

EFFECT OF CAFFEINE ON HUMAN BEINGS

To the Editor:—**What is the present opinion on the effect of caffeine on human beings and the possibility of hypercaffeinemia? Are there recent studies on the subject?** **Bennett W. Kantola, Lieutenant (MC.), U.S.N.**

ANSWER.—As ordinarily taken in beverages, caffeine produces a mild stimulation of the cortical centers characterized by wakefulness and alertness. In some persons, or with larger amounts, restlessness, muscle tenseness and an inability to concentrate are also produced. There is little effect on the medullary centers and peripheral organs, except for mild diuresis, until medicinal doses are administered. Then there may be respiratory and circulatory stimulation. With extratherapeutic doses these effects become more pronounced and delirium may be produced, but fatal poisoning is almost unknown. A certain amount of tolerance is produced by continued use of beverages containing caffeine, and headache has been described as a withdrawal symptom.

Moderate, continued use of beverages containing caffeine would not appear to be harmful. Immoderate use probably impairs both mental and physical performance in the direction of inexactness and misjudgment.

Reference:

Dreisbach, R. H., and Pfeiffer, Carl: Caffeine Withdrawal Headache, *J. Lab. & Clin. Med.* **28**: 1212 (July) 1943.

TEST OF LABOR OR CESAREAN SECTION

To the Editor:—**A slender white woman aged 35 is six months pregnant. She had one other child seventeen years ago. She has had several cervical cauterizations; the right kidney has been removed; her tonsils have been removed; a Baldy-Webster suspension has been done. She has been in a psychopathic hospital and her case diagnosed as hysteria. Another psychiatrist diagnosed her condition as true convulsive seizures. Should this woman be delivered by cesarean section or given a test of labor?** **M.D., Texas.**

ANSWER.—A patient like this should preferably be given a test of labor and delivered from below. Hysteria or convulsions are not indications for cesarean section; neither is the nephrectomy, the cervical cauterization or the Baldy-Webster suspension. Normal labor is less of a strain than an abdominal operation in a secundipara with one kidney; the majority of women have normal labor following nephrectomy. Likewise, if the cauterization was properly performed there should be no interference with the first stage of labor. This woman should have much more supervision than other women during the remainder of her pregnancy. She should have at least weekly examinations of the urine and Mosenthal tests of renal function to be certain that trouble does not arise in the one kidney she has. Should evidence of nephritis, toxemia or severe pyelitis appear, the pregnancy should be terminated. However, there need not be alarm in finding albumin in the urine during the last few weeks, because this occurs in more than half the cases of pregnancy following nephrectomy. If any obstetric indication for cesarean section arises, fear of performing the operation is not indicated; but it should not be an elective one simply because of the patient's past history.

TRANSFUSIONS WITH POLYCYTHEMIC BLOOD

To the Editor:—**Is there any contraindication to the use of polycythemic blood in transfusion work? In the case of a person with polycythemia whose hemoglobin is 20 Gm. and red blood cell count is 8,000,000, what should be the dilution with isotonic solution of sodium chloride in the event that this blood can be used?** **M.D., Brooklyn.**

ANSWER.—Since the cause of polycythemia vera is still unknown, the possibility cannot be excluded that the disease may be transmissible by blood transfusions. In addition, as the best policy is to use only perfectly healthy donors, the use of polycythemic blood for transfusion may be objectionable. There should be no mechanical difficulty in transfusing polycythemic blood, so there is no need to add any saline solution. When packed red cells are used for transfusions, the usual policy is to restore the original volume by adding a volume of saline solution equal to the volume of plasma removed. However, some workers transfuse the packed cells without adding saline solution or adding only minimal amounts sufficient to reduce the viscosity.

DERMATITIS FROM SMOKE AND FUMES

To the Editor:—**A woman aged 35 suffers from a dermatitis caused by contact with smoke, fumes or any product of combustion of kerosene, coal, wood, even the fumes from the exhaust pipe of an automobile. A rash appears on all exposed surfaces and resembles a weeping, chronic eczema. She first consulted me about this condition in March 1943 and since then has consulted many other physicians, including several excellent dermatologists, who have been unable to provide or suggest any means of relief. Please forward any information that may be of help in desensitizing or treating this patient.** **D. K. Matthews, M.D., Dresden, Ohio.**

ANSWER.—Dermatitis from exposure to fumes is rare. Search of the literature failed to reveal any definite cases of this nature. Tuft (Clinical Allergy, Philadelphia, W. B. Saunders Company, 1938, p. 508) mentions contact dermatitis from occupational dusts of all kinds and from certain hydrocarbons, e. g. raw petroleum, lubricating oils, cutting emulsions, benzene, naphtha and carbon disulfide. Such cases are frequent. Shelmire mentions that a patient susceptible to contact with poison ivy did not develop dermatitis when exposed to the smoke of burning poison ivy plants (*Arch. Dermat. & Syph.* **43**:384 [Feb.] 1941). Avoidance of fumes seems to be the only important method of treatment. Desensitization or hyposensitization is impossible, because proper extracts cannot be readily made, and, even if they could be correctly prepared, the results of treatment would probably be unsuccessful.

INDUCTOTHERMY AFTER IMPLANTATION OF METAL PIN

To the Editor:—**Will the use of inductothermy in a case in which a metal pin has been placed for fracture of the neck of the femur be permissible? Is there experience to indicate whether calcification of callus may be induced?** **J. D. Holston, M.D., Massillon, Ohio.**

ANSWER.—It would be better not to use inductothermy in a case in which a metal pin has been placed for fracture of the neck of the femur. With ordinary treatment dosages it is probable that the danger of excessive heating of the pin is slight; nevertheless it could occur. There is no definite proof that hyperemia in itself would promote more rapid repair of the fracture, although some experiments have pointed that way. On the other hand, it is generally agreed that excessive hyperemia could cause decalcification.

One of our large military medical centers now, it is believed, is carrying on extensive studies on the effect of diathermy on metallic implants, but thus far no conclusions have been reached. Therefore it would seem better, for the present, to avoid the use of a short wave diathermy induction coil over a metallic implant.

RABBITS VERSUS FROGS FOR ECTOPIC PREGNANCY TESTS

To the Editor:—**I should appreciate an opinion relative to the incidence of positive Aschheim-Zondek tests in ectopic pregnancy. It is my understanding that the rabbit is most frequently negative but the frog test is positive in a high percentage of cases. Is this correct?** **A. A. Skemp, M.D., La Crosse, Wis.**

ANSWER.—In order to obtain a positive test for pregnancy using either the rabbit or the frog for the test, it is necessary to have an excess of chorionic gonodatropin in the blood or the urine of the patient to be tested. Since in many ectopic pregnancies there is a poor development of the trophoblast or the chorionic villi plus a poor connection with the maternal tissue, the incidence of negative tests for pregnancy is high. In most series the discrepancies run to about 25 to 30 per cent, so that the Xenopus (frog) test will not show a higher rate of positive tests in ectopic pregnancy than will tests on the rabbit. The only advantage of the frog test over the rabbit test is that it is possible to obtain a result in the former in eight hours, while the latter needs eighteen to thirty-six hours of running time.

DEAFNESS FROM MENINGITIS

To the Editor:—**Is there any new treatment now available for a patient who is totally deaf as a result of meningitis fifteen years ago which apparently destroyed the auditory nerves? His inner ear mechanism is apparently intact, for he has no trouble with his balance or with vertigo.** **C. Ronald Fulkerson, M.D., Oakdale, Calif.**

ANSWER.—Deafness from meningitis is always due to invasion of the inner ear by the infection, with destruction of the nerve of hearing. Generally the static labyrinth is destroyed along with the acoustic labyrinth, as could be determined by the caloric test. The fact that the patient is no longer unsteady or dizzy is not surprising, since compensation occurs after both labyrinths have been completely destroyed. There is no possibility of any improvement in the hearing by medical or surgical means in such a case. Lip reading must be resorted to.